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ABSTRACT

Articles in this eighth yearbook of the American Reading Forum address the dilemmas of teaching reading. Articles, listed with their authors, are as follows: (1) "Deepening a Dilemma: Stylus vs. Computer Writing at an Early Primary Level" (J. Heep); (2) "Concept Maps and Vee Diagrams: Strategies To Deal with the Dilemma of the Restricted Curriculum" (M. Alverez and others); (3) "Attitudes of Adult Literacy Students and Their Teachers toward Computers for Instruction: before and after Use" (E. Askov and E. Brown); (4) "Reading for the Reluctant" (J. Bertrand); (5) "Teachers as Managers or Decision Makers? Technology versus Deliberation in Teaching" (W. Blanton and G. Moorman); (6) "The Policies, Politics, Problems and Issues: What Can We Do as a Profession?" (R. Flippo); (7) "Reading and Writing as Tools for Independent Learning: The Content Area Classroom at the Crossroads" (K. Ford); (8) "Teacher Knowledge of Their Students' Learning Strengths and Weaknesses" (D. Gustafson); (9) "Preparing Children for the Reading Test or Teaching the Universe of Discourse" (D. Mancus and A. Prince); (10) "Is There A Core Curriculum in Reading Education? A Sense of the Essential" (J. Meeks and T. Estes); (11) "Effecting Change in Attitude and Classroom Practice with Word Processing Technology in the Reading and Writing Curriculum" (M. Moore); (12) "The Effects of Selected Writing Strategies on the Social Studies Reading Comprehension of Fourth Grade Students" (R. Moore); (13) "The Pros and Cons of Using Meta-Analysis as Applied to a Specific Body of Research" (D. Neville and E. Searls); (14) "Preservice and Inservice Teachers' Reading Comprehension Skills and Their Metacognitive Awareness of Processing" (J. Platt and K. Williams); (15) "Home Reading Behavior of High and Low Reading Ability Third- and Fifth-Grade Readers" (T. Rasinski); (16) "Using the Cognitive/Learning Styles Literature in the Teaching of Reading: A Personal Perspective" (K. Smith); (17) "Prospective Teachers' Recollections of High School Content Area Instruction" (R. Telfer and R. Jennings); (18) "Teachers' Reactions to a State Mandated Basic Skills Reading Test" (D. Thompson); (19) "Developmental Reading for College Students Who Think, Speak, and Write Black Dialect" (L. Tomlinson); (20) "Shoes That Fit Don't Prevent Bunions" (K. Camperell); (21) "How Do We Pick Our Heroes: A Second Look...The Shoe That Fits" (W. Otto); (22) "Selecting an Approach to Enhancing Literacy: Would Roy Rogers Be a Hero Without the Horse He Rode in On?" (B. Hayes); (23) "Of Heroes, Shoes, and Hats" (B. Jerrolds); (24) "Riding Trigger in Boots That Don't Fit" (P. Sweet); and (25) "Who Controls Reading Improvement? The Dilemma of the Power-Expertise Gap" (L. Erickson and J. Logan). (MM)

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THE DILEMMAS OF TEACHING READING

EIGHTH YEARBOOK OF THE AMERICAN READING FORUM

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THE DILEMMAS OF TEACHING READING

EIGHTH YEARBOOK OF THE AMERICAN READING FORUM

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The editors of THE DILEMMAS OF TEACHING READING, the eighth yearbook of the AMERICAN READING FORUM, wish to express genuine appreciation to members of the Editorial Board. These members have served as advisors, reviewers, and supporters in the publication of this yearbook. Since its beginning, the yearbooks of the AMERICAN READING FORUM have been refereed publications of papers presented at annual conferences. Manuscripts based on conference presentations are reviewed by the Editorial advisory Board before acceptance by the editors for inclusion.

Don Lumpkin
Mary Harshbarger
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FORWARD

Articles in this Eighth Yearbook of the American Reading Forum have been recommended by the Editorial Advisory Board from those submitted by authors who presented at the 1987 Annual Conference in Sarasota, Florida. Papers from general meetings, problems courts, forums and the whole range of sessions have been arranged to represent the variety of exciting ideas explored during the conference.

The Dilemmas of Teaching Reading is a very appropriate theme for this yearbook as the final decade of the twentieth century approaches. It allows an opportunity to look back at tradition and the challenge to look at today and the future in relation to changes currently in evidence or envisioned.

The four editors of the yearbook want to express appreciation to presentors who have submitted papers and to members of the Editorial Advisory Board who have reviewed and recommened publication. The editors join members of the American Reading Forum in hopes that publication of these proceedings will assist in strengthening an overall perception of teaching reading which can help resolve some of the dilemmas facing education today. The program theme has elicited papers which review research that is completed, research in process, areas that should be the focus of future study as well as opinions and ideas to foster innovation. Goals will be attained as readers of this yearbook are challenged to think, study, experiment and find ways to become more effective in teaching reading.

The editors would like to extend thanks to Kimberly Preske who initiated the word processing for this yearbook and special recognition to Kristine Weliver who completed the typing, setting up tables and page formatting. Wayne Mock also volunteered time and valuable advice for layout and preparation for publication.

Finally, as this last yearbook in the series of three is completed by the Ball State University team of editors, we would like to express deep gratitude to members of The American Reading Forum. Your support and cooperation though volunteering to serve promptness and responsiveness in submitting and reviewing articles has been helpful. In addition, your thoughtfulness and gracious recognition of our efforts has aided in making a difficult task both satisfying and rewarding for us. We consider it a real priviledge to have served American Reading Forum as your Yearbook editors for the past three years.

D. L.
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1988

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DEEPENING A DILEMMA: STYLUS VS. COMPUTER WRITING AT THE EARLY PRIMARY LEVEL

James L. Heap
Ontario Institute for Studies in Education

Introduction

Rather than resolve a dilemma I intend to deepen one facing teachers in well-endowed classrooms. The advent of the computer, in its role as a wordprocessor, presents great opportunities to teachers and students. While not widely used at the Elementary Level, the computer presents attractive possibilities for the development of the skills of young writers. (Daiute, 1985; Heap & Moore, 1986). The dilemma at the early Elementary Level is whether to base classroom writing activities on the stylus or on the computer as the preferred medium for student expression.

The argument which I shall sketch here is complex. When stylus and computer writing are compared closely, from a phenomenological perspective, it becomes clear that, in addition to advantages, the computer user faces a danger, a need, and a constraint which are not encountered in the use of any type of stylus (pencil, pen, crayon, etc.). The danger is that the student's story, as it appears on the computer monitor, will be deformed inadvertently in the course of its production. The need is that the damage to the story, its deformation, be repaired. The constraint is that the damage can be repaired using only the same devices and commands (hardware and software) which are available to write stories in the first place.

I. The Dominant View of Computers

What has become the dominant view among persons who write about wordprocessing in classrooms is that the computer is a fully wonderful writing tool. It is more powerful than the stylus. One can delete whole sections of a document, move sections around, and format the document in endless varieties of ways (Bradley, 1982). It is easier for young children to use a keyboard than to manipulate a stylus (Daiute,1985). The product, the completed document, is more readable when produced on a computer, and can be shared easily between students. And researchers have found that students enjoy using the computer to write (Kielman & Humphrey, 1982).

II. Comparing Stylus and Computer Writing

A. We lack a close comparison of the use of the computer and the stylus in writing. Partly this results from a curious shortcoming in the approach to the computer in almost all popular and academic literature. Turn to any dictionary of computer terms. Read any article introducing computers to the new user. You will find the following type of definition of software:

> Software: programs, languages, and/or routines that control the operations of a computer in solving a given problem...(Darcy & Boston, 1983)

If one looks up the definition of programs one finds something like "a set of instructions arranged in a proper sequence for directing a digital computer in performing a desired operation or operations" (Sippl, 1981).

All the definitions of software are in terms of programs *for the computer*. What is missing is a conception of software as programs *for the user*. This shortcoming arises because software has been developed by persons who are oriented to how the program will run within particular hardware and operating system environments. There has been attention given to "user interface," i.e., the design of devices and commands which allows persons to run programs on computers. What is missing is an account of how hardware devices (e.g., keyboards, mice, joysticks) and software commands (carried out using the aforementioned devices) function within the task-oriented acts of users.

B. I am interested here in the task-oriented acts of persons using a particular genre of software: wordprocessing programs. The use of such software on a computer modifies and transforms writing in ways not yet fully appreciated.

Cognitive theories of writing differentiate between composing or idea generation and "transcribing"– putting down our thoughts (e.g., Hayes & Flower, 1980). On the computer transcribing is differentiated into two categories of acts and keys. Acts of *inputting* operate on *display keys* to produce on the computer monitor's screen letters of the alphabet, along with punctuation marks, numbers and various symbols. Acts of what I call *arranging* operate on *executive keys* to arrange the signs and symbols on the screen and to navigate through them.

"Arranging" consists of such acts as deleting signs, reformatting document sections, calling up menus, screens and windows. Executive keys physically "border" the display keys on the keyboard in a wide "u" shape. These keys are used to move signs and symbols around on the screen, e.g., Control, Alt, Delete, Return, Escape, Shift and cursor keys. A subset of these keys, the cursor keys, are used to navigate through the screen document in order to place the cursor at the point in the document where the user wishes to take action, e.g., to input new signs or to arrange the document into a new screen state.

The effects of display and executive keys are *program dependent*. Different software programs make different use of hardware devices. This is especially true of functions served by executive keys. While many programs are designed to allow quite similar actions to be accomplished, they differ as to what keys are to be used to achieve these ends.

It also depends on where one is in the use of a program as to what functions keys will have. For example in the wordprocessing program Word Perfect, pressing the "1" key while in the midst of writing a document will result in a "1" being displayed on the screen at the point where the cursor was when the "1" key was depressed. If one strikes the "1" key when the "List Files" menu is on screen this will cause a previously written document to be written to the screen. What is otherwise an inputting/display key can become an arranging/executive key.

Some executive keys achieve screen displays when used in conjunction with display keys, e.g., when the Shift key is held down in tandem with the "S" key. Typically, say in the program Wordstar, depressing display keys in conjunction with executive keys produces arranging acts, e.g., holding down "Ctrl" and the "Y" key deletes and entire line of the screen document.

C. Given some appreciation of how the computer as a means and medium of expression transforms the "transcribing" aspect of writing, I can now provide a simple structural comparison of stylus and computer writing. (For ease of comparison I have not included any "pointer" devices sometimes operated with computers, (e.g., mice, trackballs, joysticks).

Transcription Device
  Stylus Writing: Stylus
  Computer Writing: Keyboard
Relation to Plane of Transcription
  Stylus Writing: Proximal
  Computer Writing: Distal

Assuming that the differences in transcription devices is self-evident, remarks are in order regarding the writer's relation to the plane of transcription.

When one writes with a stylus the point of the stylus, and usually one's hand, is in direct contact with the page, the "plane of transcription." Borrowing from the science of anatomy we can say that the stylus is proximal to the page.

In computer writing the computer monitor's screen is at some distance from one's fingers on the keyboard. The keyboard is distal to the plane of transcription. Even if one places the keyboard against the monitor's screen, the writer's relation to the screen is still distal. The relation is mediated by the electronic circuitry and the command structures, the codes, which guide electric current through the computer. While the relation is always distal, hardware and software engineers have devised various techniques for giving the computer user the sense of a direct, transparent relation between input acts and screen state outcomes.

From watching young children play games on computers we know that many are able to comprehend and function within distal relations before they even begin grade one. What is of interest here is that the distal relations involved in arranging acts in word processing present problems which are more difficult to solve than in the proximal mode of stylus writing. When one makes a mistake in stylus writing it is possible to apply a stylus or an eraser directly to the mistake, where it appears on the page. The mistake can be erased or marked out. Mistakes in wordprocessing must be remedied from a distance, using transcription devices (e.g., the keyboard). We will be concerned with problems of distal remediation in computer writing among young students.

III. Research Basis for the Argument

A. My claims about the organization of computer use are based on analyses of videotapes of collaborative computer writing sessions in a combined First and Second Grade classroom. As part of a three year research project funded by the Social Sciences and Humanities Research Council of Canada the tapes were produced during the 1985-86 school year in a Catholic school in Toronto, Ontario, Canada. The population of the neighborhood which the school serves is largely of Southern European extraction.

Twenty three hours of videotaping were done in the Fall of 1985 of students working at the classroom Writing Centre. The Centre consisted of two tables with six chairs, paper, pencils, erasers and various books and writing resource materials. In the Spring of 1986 thirty seven hours of videotaping were done of students wordprocessing at the Computer Centre. This Centre consisted of one Apple II+ computer, a video monitor, and a dot matrix computer, all resting on a large table. A few books were available at the Centre to use as resources for writing.

Multiple video cameras and recorders were employed such that we are now able to determine at the Computer Centre exactly which keys were hit, in what order, by whom, and with what effect.

The focus of the research has been on the socio-cultural organization of collaboration during writing, with particular attention to computer writing. Collaboration in this study consists of designated student writer composing, transcribing and editing a story with the aid of a fellow student "helper". In this classroom the helper was originally chosen because of her or his technical proficiency at the computer. As the year progressed helpers seemed to have been chosen more on the basis of actual or desired friendships.

B. Detailed transcripts of selected segments of videotaped interaction from both Centres have been produced. Analyses are based on multiple, transcript-aided viewings of videotapes.

C. The focus on collaborative writing has turned out to be fortuitous for pursuit of a variety of interests. Cognitive psychological studies of the writing process have depended heavily on talk-aloud protocols (e.g., Hayes and Flower, 1980). In experimental situations writers are asked to verbalize their thought processes as they compose. Such protocols have not been used with young students as children are believed not to have the reflective and linguistic skills required both to write and verbalize their thinking.

It turns out that collaborative writing activities engaged in by even first graders generate talk which has some of the properties of talk-aloud protocols. Students' composing, transcribing and editing strategies occasionally are made visible to their partners, and as such are made visible to, or inferrable by, analysts of videotapes.

IV. Composing Environment

A. To appreciate the small danger, need and constraint which the novice computer writer faces we need to understand the epistemological character of writing. Only in trying to transcribe does one discover properties of types of means and media of expression.

B. During the composing phase of collaborative writing at the computer in the classroom where we did observations, the students learned about the computer (qua hardware and software-for-the-user) as they used it. Their "mental model" of the computer necessarily was shaped by their experience with the computer within the parameters of the writing task.

All writing in the classroom at the computer involved a composing phase. Students had to input the title of their story in response to a prompt from the computer program. Their title would then appear at the top of the screen along with their first name. Below this information the cursor appeared in column one of row one of the screen. Composing began when this titled screen came up.

C. For the point I eventually want to make it will be useful to illustrate the claims about the epistemological nature of transcribing with an example.

> Clare, a First Grader, and Tina, a Second Grader, are just commencing work on Clare's story titled "My Pet." Tina is the helper.

We join them at the point where they are composing and transcribing a sentence which so far reads:

I had a cat but it *

The asterisk marks the location of the cursor on the screen.

Pleased with the placement of the cursor Tina says "There.." Simultaneously Clare presses the lower case 'r'. Tina then says/reads "I had a cat but it ruh-uh: r:*a:an!*" (Colons represent elongated sounds.) Clare responds: "That's what I was gonna spell!" While she presses the lower case 'a'. She holds down the key too long with the result that the key 'repeats':

I had a cat but it raa*

The children react to the screen state with grimaces and giggles. Clare presses the left arrow key, which on the Apple II+, running this particular software package, results in the extra 'a' being erased.

Clare then says "It rah rah: : ah, rah-ah-ah-ah." Tina chimes in with emphasis: "*Ran* `En: : nuh!" Clare reacts with "I know!" Tina, refering to the 'n' key, queries: "Can't you find it:?" Clare presses the lower case 'n'. With some adamance Tina utters "*Space!*". Clare complies by pressing the space bar. The screen reads:

I had a cat but it ran*

Clare looking at the screen says "ran, ran, ran away." The children go on to transcribe "away."

D. Phenomenologically what is interesting about the Clare and Tina segment is how the means and medium of expression function. How they function provides the basis for what the students could believe about how the computer works.

Working on a clear screen, one not yet filled with characters, the students hit a key. A character is displayed or the cursor is moved one space to the right, providing the next point; where a character or space can be inserted. The space, or, better yet, the zone extending from the right of the cursor is "open," unfettered. From the perspective of the transcribing acts which have occurred so far, and only from that perspective, the means and medium of computer writing appear operationally no different than would the means and medium of a manual or electric typewriter.

In typing, as opposed to keyboarding in an electronic medium, the page is "open" for use. One can type anywhere upon it, as long as the paper will stay put. It is simply a matter of rolling the paper to wherever one wishes to begin, or recommence, typing. Once there the space bar (or tab key) is used merely to move some part of the machinery to the point at which one next needs to imprint characters on the page.

Things are not so simple with electric writing means and media, though to most of us, including Clare and Tina, the difference is not so obvious. The difference is that the space bar, as well as the display keys (and the tab and Return/Enter keys) *clear space* on the screen.

When we, or the students in my study, are faced with a blank screen at the beginning of a computer writing session we cannot move the cursor just anywhere on the screen. The cursor keys can be depressed, but the cursor will not move. The space is not "open" to such movement. The space must be cleared by moving through it, by striking display keys, or some of the executive keys, including the space bar.

For the children like Clare and Tina who compose at the computer the "closed" character of the video monitor's screen is invisible, undiscovered. Phenomenologically, not being known, it is not there. The screen looks as open as the blank page to which a stylus is applied.

For Clare and Tina, as for the rest of the students in our study, the space bar is just a device for moving the cursor over, or through, space. It is not until they place the cursor into the midst of their story that they have the opportunity to discover the limits of their understanding of the electronic medium they have come to enjoy. The limits usually are discovered in the editing phase of story production.

V. Editing Phase Organization

A. Editing, for the purpose of my analysis, consists of the prepatory work done by teacher and student(s) to reform one draft of a computer story into a final draft. (In any particular case, the latter may turn out to be just the next draft: more corrections may be necessary.)

Computer Centre editing has two sub-phases:

1.) Hard Copy Correction
2.) Correction Interpretation and
Screen Document Reformation.

These sub-phases are present in both solo and collaborative computer writing. The first is carried out by the teacher, with the student(s) having rights and responsibilities to respond to teacher queries. The material focus of this sub-phase is a hard copy of a story written on the computer. The second sub-phase is carried out by the student(s) at the computer, generally without teacher direction or supervision. This sub-phase has two material foci: The corrected hard copy and the screen state of the computer's video monitor.

Correction Interpretation is the work of locating corrections made by the teacher on the hard copy, and interpreting them in terms of what is to be changed and what the changes should be.

Screen Document Reformation is the work of translating the corrections into sets of actions which will reform the story on the screen into a corrected facsimile of the hard copy. The latter is not strictly a reproduction of the corrected hard copy: no pencil marks, crossouts or hand printed words or letters appear on the screen. It is a facsimile based on the student's (or students') interpretation of what the teacher wants the story to look like (at the document level: signs and symbols on a plane; see Heap, 1977).

B. In solo writing, obviously, both Correction Interpretation and Screen Document Reformation must be done by the writer. In the case of collaborative writing which I observed the tasks typically were structured such that the helper engaged in Correction Interpretation of the hard copy and gave directives to the writer as to what keyboard action to take in order to bring about Screen Document Reformation. The writer typically would comply with the helper's directives (Heap, 1987).

VI. Reformation: Correction and Repair

A. In the Screen Document Reformation subphase of editing students most often encountered the special properties of electronic writing means and media which differentiate computer from stylus writing. Those properties can be articulated in relation to the two types of keyboard acts which predominate during Screen Document Reformation: correction and repair.

B. The task of producing a facsimile on the screen of the corrected hard copy involves students in routine problems of how to alter the screen document. They must decide which executive keys to use to move the cursor to the point at which a correction is required. Then they must select the correct executive and display keys to reform the document in ways consistent with their interpretation of the corrections on the hard copy.

In the course of solving correction problems computer writers can make mistakes. They can push the wrong keys, and end up inserting new characters or deleting previous characters. In so doing they can deform the document: alter it in ways not in line with the corrections on the hard copy. When this occurs they must engage in *repair* of the document. I am using repair here in a narrow and specific sense. Repair is a keyboard act, or series of acts, which literally "reforms" a document or screen state after a prior keyboard act is judged to have been in some way untoward. *Repair acts alter the document by returning it to its condition just prior to untoward keyboard acts.*

Where correction acts alter the screen document to make it conform to the corrected hard copy, repair acts alter the document so as to return it to a prior state. Where correction acts reform the screen in relation to the teacher's conception of what the document should look like, repair acts reform the screen in relation to what the document looked like before untoward keyboard acts occurred.

VII. Reformation: an Example

A. To appreciate the difference between correction and repair, consider the example of Joan and Mary, two second graders whose task it was to reform Joan's story in line with the teacher's corrections on the hard copy of "Miami Vice."

The story was printed after the students saved the story to a computer disk. The students had to reaccess the story in order to begin editing it. The story came up on the monitor, taking up most of the space on the screen. The cursor was located in column one, one line below the end of the story. Mary, the helper, had the corrected hard copy in front of her. She informed Joan that they had to move the cursor to the top of the story, then move it right of the end of the first line of the document. The first line of the document read as follows:

Last week 1 went to the C.N Tower

As we join the students their task is to correct the screen document by adding a period at the end of the first line. On the hard copy the "1" (for "I") and the absence of a period after "N" were not corrected.

B. Having collaborated in the misapplication of a procedure of moving the cursor, the writer presses the "1" key twice. (Why she does this is unclear.) The resulting screen state is as follows, with the asterisk in the number line representing the column location of the cursor in the document:

1234*67890
Lall week 1 went to the C.N Tower

The dialogue, and screen states, which result were as follows. (Words in single parentheses represent what the utterance sounded like. Remarks in double parentheses are analyst comments.)

01 J: Oh, no:
02 M: You stupid! ((said softly))
03 J- ((Right hand presses the delete
key twice.))

1. 12*4567890
La week 1 went to the C.N Tower

04 J: I'm so stupid, boy...I know what
I'm doing.
05 M: T
06 J: I know.
07 J- ((Presses the "space insert" key,
thereby inserting one space to
the right of the cursor.))

2. 12*4567890
La week 1 went to the C.N Tower

08 J: ((softly)) S ((presses the lower
case 's'))

3. 123*567890
Las week 1 went to the C.N
Tower

09 M: T
10 J: ((softly)) T ((presses the lower
case 't'))
11 M: (Put) T

4. 1234*67890
Lastweek 1 went to the C.N
Tower

12 J: Oh, what?
13 M: You have to put a space
((presses the space bar))

5. 12345*7890
Last eek 1 went to the C.N
Tower

14 M: (I'm getting stuck.)
15 J: I hate your guts.

C. In producing these fifteen turns and five screen states Joan and Mary have made use of a number of display keys and executive keys. In the midst of trying to correct the screen document Joan deformed the screen document, producing "Lall." She initiated repair of the deformation by using the left arrow key on the Apple keyboard to delete "ll" (screen state #1). Her next move, at turn seven, may seem odd to the reader, but it reveals Joan's knowledge of how the software program works. When "ll" was deleted the characters to the right of the cursor moved left two spaces along with the cursor. The deletion of two characters also deleted two spaces on the first line of the screen document.

At turn seven Joan uses the right arrow key on the keyboard to insert a space. The fact that she takes this move, and the consequences of the move, reveal that the software program is engineered to operate in what is called an "overtype" mode, as opposed to the more familiar "insert" mode. When a program's basic mode, its default mode, is the insert mode striking a display key will insert a character, *and a space for the character*, into the screen document. The characters to the right of the inserted character will move one space to the right. In the overtype mode a program will behave differently. Striking a display key when the cursor is located in a document line will result in the intended character *overtyping* the space and character at which the cursor was located. The characters to the right of the cursor will retain their location.

With programs in the overtype mode repair requires an additional move, and a computation, which need not be made in repairing documents in the insert mode. If one wishes to return a screen document to its state prior to a deformation move, i.e., repair a mistake, then a rule must be followed in the overtype mode. For every deleted character/space, a new space must be inserted. For programs in the overtype mode, when a space is inserted all characters to the right of the cursor are moved right one space.

Joan's first problem is that, while she seems to have some cognizance of what is required for repair, she does not comply fully with the rule. She deleted two characters, but at turn seven she inserts only one space.

Her failure to satisfy the rule becomes clear after she strikes the "s" and "t" keys. At screen state four we see, as does Mary, that a space is required between the "t" and "w" of "Lastweek."

In response to this state of affairs Mary presses the space bar. Pressing the "space" bar appears a sensible move. Pressing the space bar during the composing phase of computer writing worked to move the cursor one space to the right. It works here, too, but not as well. It moves the cursor one space to the right, but in the overtype mode it also *erases* the character that was to the right of the cursor, the "w" (screen state five). The character is erased and a space replaces it.

The editing efforts of Joan and Mary were plagued with problems arising form their use, and misuse, of the space insert key, and the space bar.

VIII. Discoveries

A. The first thing which we discover from examining Joan and Mary's efforts is something about the dependence of the function of keys. In section II, I made the claim that keys are program dependent. Depending on which program one is in, and where one is in the program, keys operate differently. What is an executive key when one is choosing moves from a program menu, is a display key when one is inputting a document.

What we see in the case of Joan and Mary has to do with the phenomenology of computer writing. Recall the discussion of the composing environment in section IV. The point was made that the way in which the keys and screen function provides students with grounds for believing that the computer functions in certain ways.

In the composing environment, where the document appears typically to the left and above the cursor, the remaining portion of the screen appears as open to use as a blank page. The display keys and the space bar operate as if they are filling, or moving through, open space. In that the cursor keys cannot be used to move the cursor beyond or below any space which has not already "inhabited," a user could surmise that the space on the screen is not "open," but rather must *be cleared.*

While composing, the novice writers and helpers in my study rarely experienced the "closed" character of the screen. When they moved into the editing phase of their writing some of them recalled, with the help of the teacher or perceptive classmates, that the right arrow key functioned to insert space into the document. Joan, above, recalled this fact on her own. But she failed to compute correctly how many spaces she had to insert. She did not make enough room in the closed screen document.

The real problem arose for Joan, Mary and other students when they used the space bar. In the composing phase the space bar was just a device for moving the cursor, "putting a space" between words. In the editing phase, with the cursor located in the midst of the document, they found that, phenomenologically, the space bar functioned differently: it moved the cursor one space to the right, but in so doing erased any character which may have previously inhabited that space.

The discovery here for researchers and teachers is that not only are the functions of keys program dependent, but they can be experienced as *document* and *task* dependent. The functions of keys can be experienced as document dependent in the sense that where the student is in the document, e.g., with the cursor at the end of the document or somewhere in the midst of the document, can provide the student with differing notions of how the keys operate. Where the student is in a document often will be determined by what task he or she is trying to accomplish.

In the composing phase of computer writing, where the task for children in our study was to generate text and input sentences, the means and medium of expression were experienced as functioning the same as we know typewriters to function. In the editing phase, specifically in the Correction Interpretation and Screen Document Reformation sub-phase, where the task was to correct the screen document, students usually discovered the overtype and space erase functions of keys. This discovery often necessitated, or occurred within, document repair efforts. This student discovery provides the basis for our second discovery.

B. The second discovery for researchers and teachers is that document deformation and repair occur *only* within electronic writing. When using a computer students can make a type of mistake which has no equivalent in the daily, typical use of a stylus. While one may make inadvertent marks on a page with a pencil, or spill some liquid on the document, the document itself is not thereby *deformed*, i.e., *changed into some other configuration of characters and spaces.*

And since stylus produced documents generally cannot be deformed, the writer does not have to engage in repair practices to return the document to some former state. Indeed, repair practices, in the sense discussed here, are altogether unknown to stylus writers.

Document deformation and repair are distal acts which distinguish electronic writing from all forms of manual writing, whether by stylus or (manual or electric) typewriter. No matter how much writing one has done, it is not until one begins using electronic means and media for transcription that one encounters the danger of document deformation and the need for document repair. The constraint on repair is one also unfamiliar to stylus writers: repair must be effected from within a distal relation to the screen document. The direct, proximal relation of stylus use is not available to the computer user. Something more and different must be known in order to write with a computer than to write with a stylus and paper.

IX. Concluding Remarks

While literature of the past five years has extolled the virtues of the computer for writing by young children, my argument here has sought to bring to consideration the complexity of writing with a computer. We need to understand the differences between computer and stylus writing not simply in terms of power, product properties and ease of manipulation. We must give attention to ease of recovery from error. In this paper, I have sought to show how such attention might be given, based upon electro-ethnographic research in one Primary Level classroom.

The result of our efforts to comprehend what children face in using different means and media of expression is a deepening of the dilemma of which means and media to use in writing instruction. Stylus writing is not easy, but computer writing may not be as easy as advertised.

I will close with a recommendation to Primary Level educators considering the use of computers for writing. It is not enough to evaluate how easily the computer and software can be used by children to transcribe the texts which they compose. Look closely at software in terms of how screen documents can be *deformed* and *repaired* by children. When software is selected, make sure that complete instruction is given on how to edit mistakes. Children who are not facile with word processing may find the computer impedes rather than assists the production of desired text. Teachers must learn to distinguish between children who experience difficulty in writing and children who cannot use the software to accomplish writing through word processing.

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CONCEPT MAPS AND VEE DIAGRAMS: STRATEGIES TO DEAL WITH THE DILEMMA OF THE RESTRICTED CURRICULUM

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There is a subtle, yet pervasive dilemma concerning when and how students can be encouraged to self-direct their own learning. This problem is particularly complex for students experiencing reading difficulties. Many teachers in grades K through 12 are faced with intrusions into their curriculum that mandate successful student achievement on local, state, and national tests. Some teachers are directed by state-adopted models to implement instructional strategies that are teacher-directed and restrict the quality of teacher-student exchange and elaboration. Other teachers, confronted with fixed time schedules for completing certain sections of the textbook, comply by requiring all students and classes of similar groupings to be "on the same page" within an inflexible curriculum. Additionally, teachers of students with reading problems are pressured to have their students gain "grade levels" or master lists of prescribed skills. This pressure suggests to many teachers that more teacher direction is needed and that student participatory activities maybe frivolous.

In many of these instances teachers readily adhere to "scripts" provided either by teacher's manuals supplied by publishers of texts or by local and state mandated curriculum materials. This dependence on "others" tends to take the "teaching" from the teacher and the "studenting" from the students. Independent learning strategies are seldom taught to students let alone used by them in learning about the structure of knowledge. The dilemma that this paper raises is: How can students learn new information in a meaningful cycle that progresses from teacher-directed to student-governed strategies when this cycle is restricted by a "body of knowledge" that must be "covered" to complete the requirements of a test-driven curriculum?

This paper argues that students can learn new information meaningfully without continuous teacher-directed inclass control. This report reveals that facilitating reading comprehension and problem solving through the development of strategic learning is realized as a result of shared meaning between the teacher and the learner.

Theoretical Framework

Gowin's (1981, 1987) theory of educating, Ausubel's (1963, 1968) cognitive theory of meaningful reception learning and a constructivist epistemology provide the philosophical and theoretical background upon which this report is designed and through which the results are interpreted. Gowin's theory of educating focuses on the educative event and its related concepts and facts. This theory stresses the centrality of the learners' experience in educating. Ausubel's learning theory places central emphasis on the influence of students' prior knowledge on subsequent meaningful learning.

Concept mapping is intended to assist students to see the relationship of central and subordinate ideas (Novak & Gowin, 1984). The Vee heuristic was developed by Gowin (1981, 1987) to enable students to understand the structure of knowledge and process of knowledge construction. The fundamental assumption of these two learning strategies is that knowledge is not absolute but rather it is dependent upon the concepts, theories and methodologies by which the world is viewed. This assumption is supported by current views of epistemology (Kuhn, 1962; Kaplan, 1964; Toulmin, 1972; Brown, 1979).

Enhancing Conceptual Learning

Knowledge is a product of inquiry that can be internalized by learners. This inquiry can be achieved through social interactions between learners. Students need to be provided with opportunities that encourage awareness and expression of their opportunities that encourage awareness and expression of their own thought processes (Donaldson, 1978). Being able to control one's thinking is the first step to awareness within the individual. This self-awareness, according to Vygotsky (Risko & Alvarez, 1986), is the ability of the individual to regulate his or her own thinking. If we expect a learner to control and direct his or her own thinking, he or she must become conscious of it. Rote learning deters this kind of self-control and self-directedness of thinking. Emphasis on right answers at the expense of thoughtful inquiry deprives learners of meaningful learning. Students versed in rote learning progress through the grades believing the "right answers" are the only measures of achievement. To these students, school success is being able to get the right answer. Students become procedurally driven by teachers who give and require right answers, a fixed curriculum that contains a given body of knowledge to regulate learning, and a system that is more concerned with teacher accountability as determined by the number of students achieving above the national norm on standardized test measures than with the ideas that students are capable of expressing. Instead, we propose that students should be made aware of their thinking so that they can control and direct their own thoughts. Concepts maps and Vee diagrams help students to be aware of their own thinking and to make associations between what they already know and what they are learning.

Constructing Meaning through Thematic Relationships

Meaning is constructed by relating prior knowledge and experiences to new information. Meaningful learning occurs as a result of students being able to see how ideas are related to their prior knowledge. Meaning can also occur as a result of social interactions that share experiences in arriving at meaning. It is this sharing and exchange of ideas appearing on concept maps and Vee diagrams that may help students become successful learners.

Students use their conceptual framework to link present learning with previous learning. They try to build upon and extend their linkages by relating new information to their conceptual structures. Further, new information that is organized thematically or around a central concept and relates to prior knowledge aids meaningful comprehension (Alvarez, 1983; Risko & Alvarez, 1986).

Each of us forms a framework of concepts in idiosyncratic ways, even when we attend the same schools and experience similar events. It is that unique ability of an individual to see and experience an event in a different way, and to share these experiences through various means of expression, that generates new knowledge (Novak, 1977). Ausubel (1968) states that "the most important single factor influencing learning is what the learner already knows" (p. vi). Teachers need to determine what their students already know if they expect to teach them new information. Teachers need a mechanism that can tap both the cognitive and affective experiences that an individual has had.

Concept Maps and Vee Diagrams

One way to meaningfully organize information into existing knowledge structures is through the use of concept maps and Vee diagrams. Concept mapping is intended to assist students to see the relationship of central and subordinate ideas (Novak & Gowin, 1984). Concept maps are arranged hierarchically representing the most inclusive ideas first, then the less inclusive ideas, and continuing to the least inclusive ideas. Vee diagrams were developed by Bob Gowin (1981, 1987) to help students understand the structure of knowedge of an article and for planning a research study (see Alvarez, 1987).

Concept mapping and Vee diagramming seem to be effective methods students can use to regulate and monitor their own thinking. Initial studies with concept maps in kindergarten, first, and third-grade have shown that students were able to learn meaningfully. Students were able to form relationships among essential ideas and were able to elaborate on these ideas. The teacher was able to provide pertinent feedback and clarify any misconceptions that developed (Alvarez, 1987, April; Alvarez & Risko, 1987; Alvarez & Stice, 1986; Stice & Alvarez, 1987).

This paper discusses how three of the coauthors used concept mapping and Vee diagrams with their students. Jill Waddell, Janet Drake, and Alice Patterson followed a three-tier process when using these two strategies with their students. The three-tier process involved first, teacher modeling to demonstrate the procedure, second, teacher-student cooperative exchange, and third, student independence in applying the strategy.

To illustrate the process used by these three teachers, these examples are presented. In several activities, Drake read stories to her students and modeled how she selected and rank ordered key concepts. She then drew a concept map to illustrate the semantic relationships among the concepts. In subsequent activities, Drake introduced concept mapping to her first graders by reading additional stories to her students and asking her students to help her to select key concepts from the story. These words were written on the chalkboard. Words/concepts were then ranked, by both the teacher and students from most inclusive to least inclusive (concrete and specific). Then the students were asked to help the teacher arrange the concepts on a large map drawn on the chalkboard. Linking words showing how these propositions were related were written on the appropriate lines by the teacher as the map was constructed. In the third stage, students were encouraged to select words and construct their own maps. An example of a student's initial attempt to make a concept map is presented in Figure 1.

Figure 1
A first-grader's initial attempt at making a concept map from a story read by his teacher

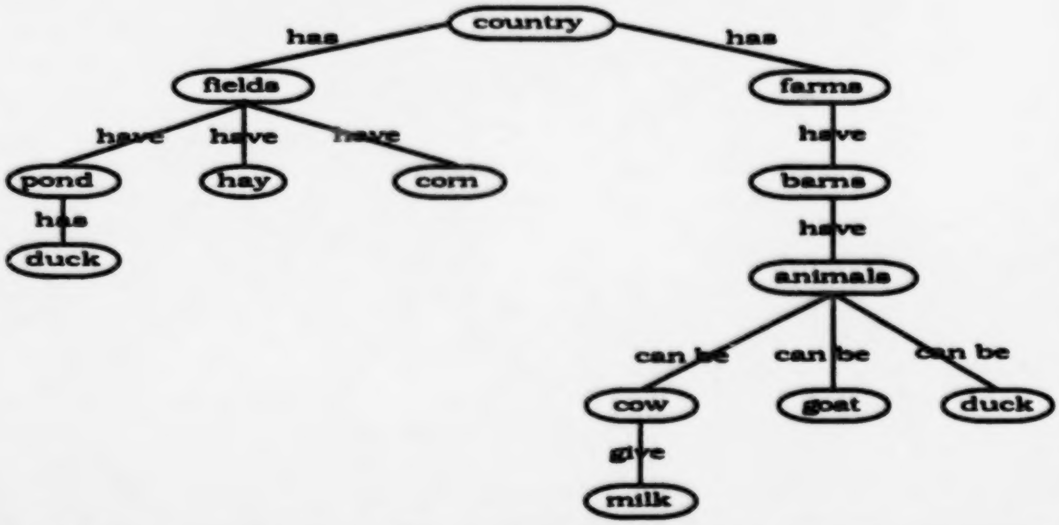
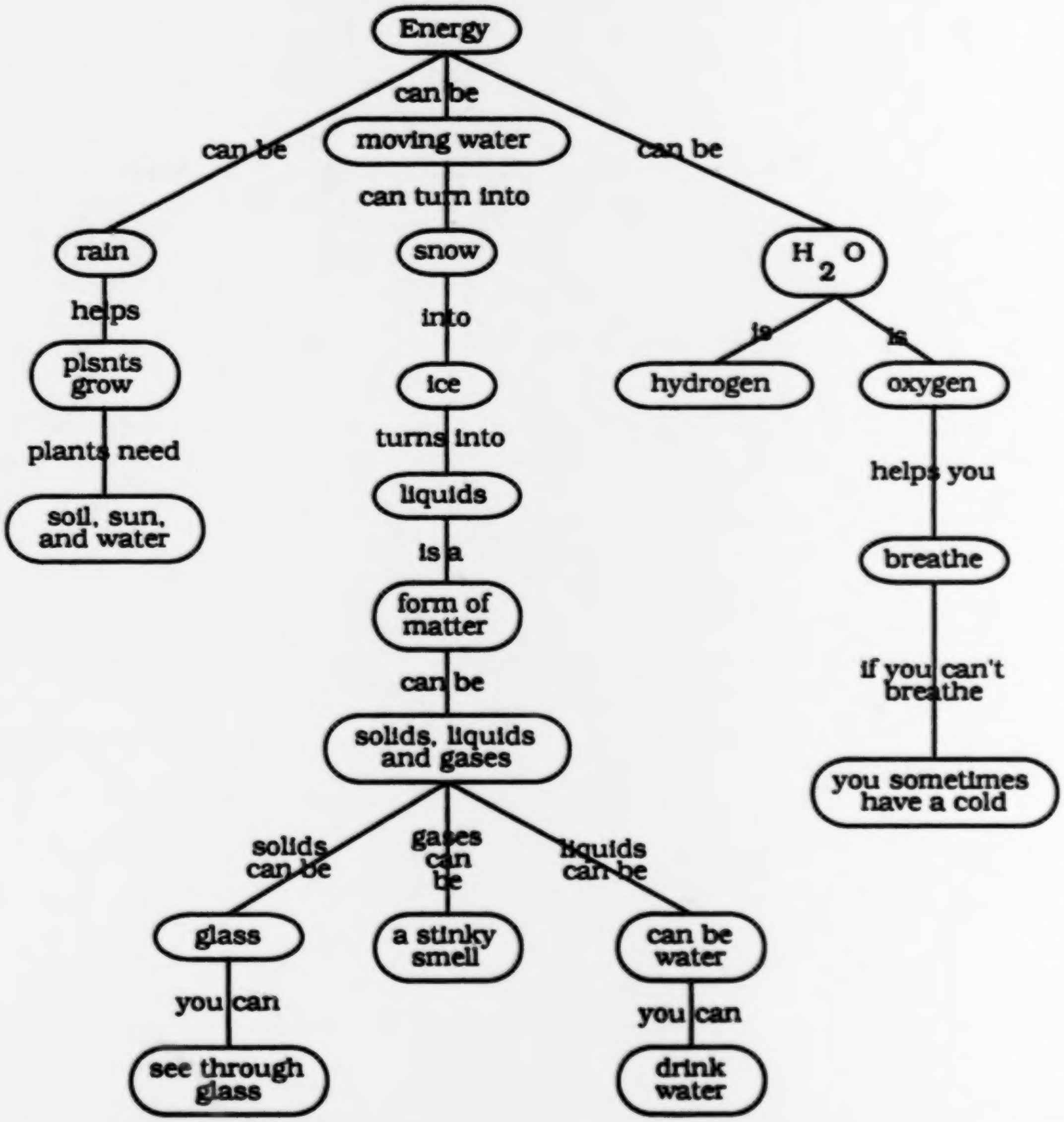


Figure 2

A third-grade student's example of a concept on an Energy Unit


Energy
can be
moving water
can be
can be
rain
can turn into
snow
H_2O
helps
plsnts grow
into
ice
is
is
hydrogen
oxygen
plants need
soil, sun, and water
turns into
liquids
helps you
breathe
is a
form of matter
if you can't breathe
can be
you sometimes have a cold
solids, liquids and gases
solids can be
gases can be
liquids can be
glass
a stinky smell
can be water
you can
you can
see through glass
drink water

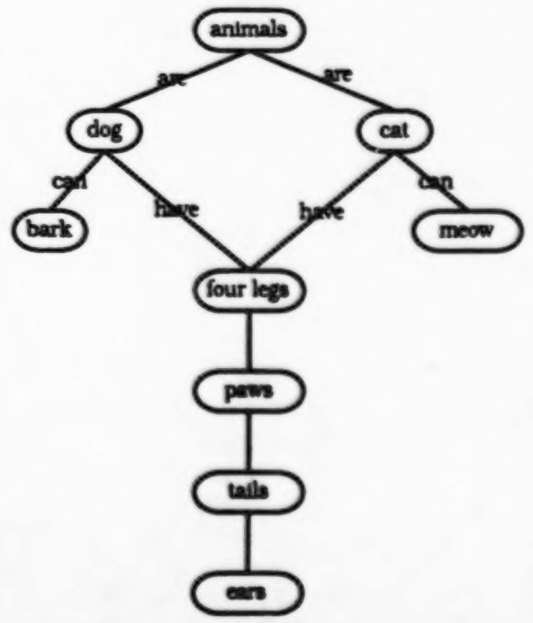
A study of this and other student constructed concept maps revealed that the major ideas were represented; however, the maps were not the same. In fact, many students added additional information based on their prior knowledge and experience (i.e., pigs give meat, chickens give eggs). Drake is now teaching third-graders and has recently participated as a co-researcher in a science experiment in which her class made use of concept maps and Vee diagrams as an integral strategy in learning science concepts based on four experiments. An example of one phase of the study involved students mapping a reading selection on "energy." A student example is represented in Figure 2.

In this study, concept maps and Vee diagrams seemed to help these third-graders to learn concepts associated with the science experiment. These students were able to discuss these concepts in meaningful contexts with each other and with the teacher. They were able to make connections, structure their knowledge, and create meaning. This study using concept maps and Vee diagrams is reported in Alvarez and Risko (1987).

Waddell introduced concept mapping to her kindergarten class. Waddell, who uses a whole-language reading/writing approach, encourages her children to constantly interact with print. They read and write as a result of interaction with meaningful materials and commonly shared classroom events. A study of the students' concept maps showed that they were able to select topics of interest and represent their ideas. These kindergarten students requested and received permission to go to the school library (on their own) to confirm their suspicions or to find out more information about the topic they selected. The map activity encouraged independent "research" by these kindergarten students. An example of one of her students' concept map is shown in Figure 3.

Figure 3

A kindergarten student's concept map depicting animals



As can be seen from this child's map the superordinate concept identified was "animals." This student was able to show how a cat and a dog were similar in that they both have **four legs**, **paws**, **tails**, and **ears**. She also showed contrast by depicting that a dog **barks** and a cat **meows**.

Waddell took a first-grade teaching position at another elementary school the following year and participated in a study that involved students conducting science experiments using concept maps and Vee diagrams (Alvarez, 1987, April). Four experiments were conducted with the students: Inflated Balloon; Mixing Primary Colors; Evaporation I; and Evaporation II. These experiments were decided on by both Waddell and the first author as a complement to the regular course of study. The records and performance measures made of the educative events during this study included scored copies of student constructed concept maps, Vee diagrams, anecdotal notes made by the teacher in her journal, notes made by the researcher, audio tapes and transcriptions of students' interviews, and video tapes of classroom interactions. Results indicated that students were able to learn meaningfully. They made explicit linkages between new concepts and their prior knowledge. They were able to show what they knew and verbalize the ideas appearing on their concept maps. In the process, these students indicated that they enjoyed making concepts maps and using Vee diagrams.

As part of the *Weekly News* that Waddell's students publish in their class, one of the feature articles was entitled "Our Experiment" written by Ricky and Ronnie on the classroom computer. This article was written following the first experiment involving the inflated balloon. They wrote ;

> We had a neat experiment.
>
> We blew up a balloon and put it in the window. We measured the balloon every hour. Ronnie thought the balloon would pop. It didn't. It never popped.
>
> We learned that air gets big when it gets warm. And when the air gets cool, its gets small.
>
> We learned that air is made up of oxygen and dioxide. People need oxygen and exhale carbon dioxide. Plants need carbon dioxide and give off oxygen It's a good thing we have lots of plants in our room. They help us to stay healthy.

These students' writings were rich with the concepts that they had constructed on their maps following the completion of the experiment.

Patterson uses concept mapping with her remedial Chapter I junior high school students. She models the procedure by constructing a map for narrative and expository materials that her students are asked to read. Next, she works with her students to help them create their individual maps. Finally, she has students generate their maps independently. She has found that students are better able to understand reading assignments once they have learned how to map their text. Figure 4 shows how one of her students mapped a reading about Aretha Franklin.

Concept mapping has helped her students to organize their ideas which, in turn, has helped them to better communicate their thoughts in their writings. She reports that these students, upon returning to their regular content classrooms, are making concept maps to better comprehend their texts. Additionally, these students have composed written stories about self-selected topics. After choosing a topic, the students list relevant ideas for their stories, map relationships among these ideas and then write from their maps.

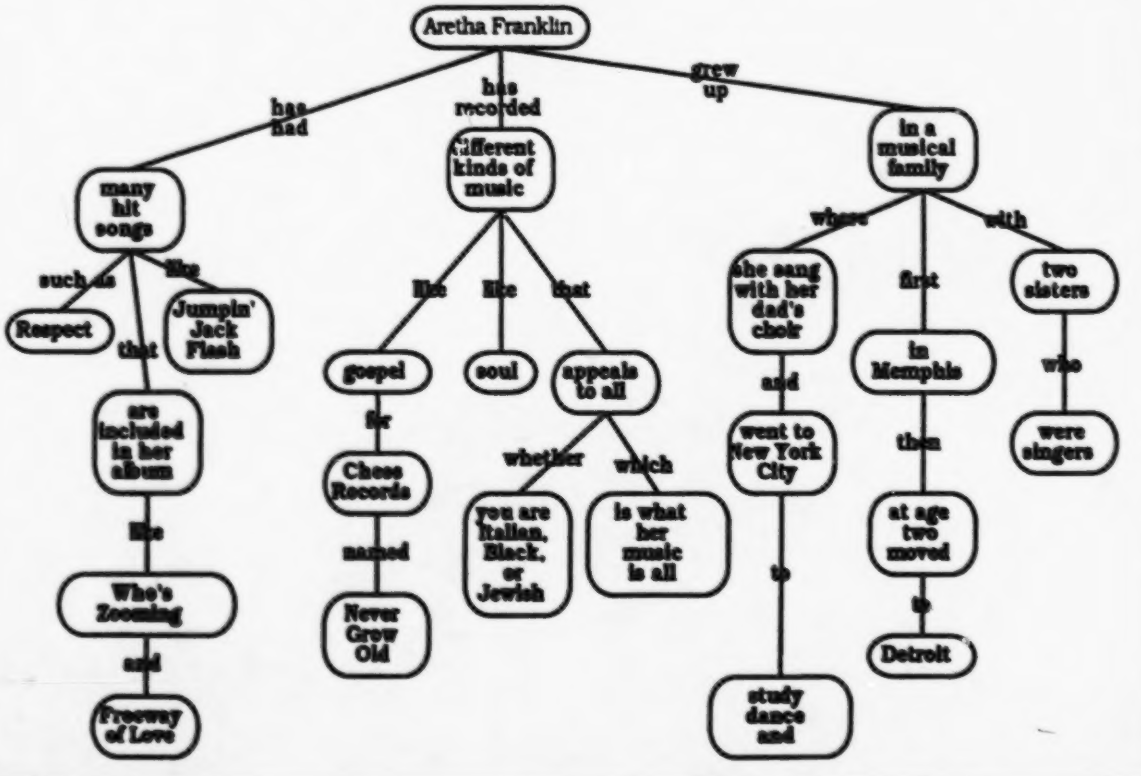
The procedures presented and followed by these three teachers exemplify what can be achieved as a result of sharing meaning with students. Teachers involved assert that desired learning occurs where students are free to express emotions and thoughts, make predictions, and raise questions.

Summary

Being able to get the right answer is sufficient in many school evaluations upon which grades are based, and too often only rote recall is needed to answer questions. Teachers, when versed in concept mapping and Vee diagrams, are receptive to concept-focused learning strategies in order to achieve meaningful, rather than rote verbatim

Figure 4

A seventh grader's representation of an article about Aretha Franklin



Aretha Franklin
has had
has recorded
grew up
many hit songs
different kinds of music
in a musical family
such as
like
Respect
Jumpin' Jack Flash
that
are included in her album
like
Who's Zooming
and
Freeway of Love
like
like
that
gospel
soul
appeals to all
for
Chess Records
named
Never Grow Old
whether
which
you are Italian, Black, or Jewish
is what her music is all
where
first
with
she sang with her dad's choir
and
went to New York City
to
study dance and
in Memphis
then
at age two moved
to
Detroit
two sisters
who
were singers

learning, and see these strategies as an independent learning aid to be used by the learner.

Vee diagramming is a way to help students and teachers penetrate the structure and meaning of the knowledge they seek to understand. Concept mapping is a way to help students and educators interpret the meaning of learning materials. The explicit linking of concepts in the form of semantic propositions that contain linking words and cross links advances the use and clarity of previous types of concept maps (e.g., structured overviews, Barron, 1969; Earle, 1969; Earle & Barron, 1973; graphic organizers, Alvermann, 1981; and semantic webs, Hanf, 1971).

A learning theory of educating like that one espoused by Gowin (1981, 1987) gives direction to planning, implementing, and evaluating the effectiveness of an instructional method. This sharing of meaning and experiences forms a trust between the teacher, his/her students, and the researcher. Through mutual planning, the students are entrusted to take responsibility to cause their own learning and the teacher becomes responsible for providing meaningful materials that encourage active participation and decision-making rather than memorization.

We have seen examples indicating the value of how a theory of educating (Gowin, 1981, 1987) coupled with a theory of meaningful learning (Ausubel, 1968), when combined with productive learning strategies, like concept mapping and Vee diagramming, can enhance conceptual learning and problem solving. If we expect our students in elementary and secondary grades to learn in a meaningful way, we need to approach teaching through a conceptual change approach. Such an approach would include knowledgeable teachers who are willing to change the meaning of experience for their students through negotiation of ideas. This conceptual approach to teaching would include explicit ways for students to become aware of their own beliefs and to come to understand the nature and construction of knowledge.

Further studies to provide additional evidence to support this view should be developed and implemented.

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ATTITUDES OF ADULT LITERACY STUDENTS AND THEIR TEACHERS TOWARD COMPUTERS FOR INSTRUCTION: BEFORE AND AFTER USE

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Computers have revolutionized instruction at all levels of education. Particularly they seem beneficial to adults who are acquiring basic skills because learning to use a computer is deemed to be an acceptable and modern learning experience (see References). While educators are still at the rudimentary stages in terms of knowledge about computers for instructional purposes, they need to know much more about the factors which facilitate or retard use of computers in instruction. Attitudes of teachers and students are expected to be important variables in the adoption of any innovation, especially computer usage. There is a need to know about the effects of using computers in terms of adults' self-esteem, self-perception, and feelings about learning other skills in addition to obvious questions about achievement gains

Objectives

The objectives of the study reported in this paper are:

1.) To determine the attitudes and perceptions of students toward the use of computers.

2.) To determine the attitudes and perceptions of teachers toward use of computers in literacy instruction.

3.) To determine change in attitudes of students associated with use of computers.

4.) To identify variables related to changes in attitudes.

The general purpose was to identify how students and teachers use and feel about the use of computers in instruction and to identify factors which facilitate or retard adoption of computers in adult literacy instruction.

Setting for the Study

In an effort to study the impact of computers on adult literacy instruction, IBM donated a large number of computers to the service providers in Philadelphia. The general purpose of the study partner agreement was to determine the usability of existing IBM software, designed for use in elementary and secondary schools, in adult literacy programs and to discover the changes that would be necessary or recommended in using the software with adults. Students were asked to fill out an evaluation form after each use so that data could be gathered on specific software programs. These efforts are coordinated by the Mayor's Commission on Literacy in Philadelphia, an umbrella agency that coordinates referral and technical assistance in adult literacy programs within the city.

The investigators of this study requested permission of the two largest service providers to assess the attitudes of adult literacy students toward the use of computers for instruction. Center for Literacy (CFL) provides services not only through volunteer tutoring but also through classes taught by trained teachers in various sites in the city. A computer lab, staffed by CFL, is in a different location from the classes. Instruction at the Lutheran Settlement House (LSH) is offered to classes in the settlement house building. A computer lab is set up in one room. To expedite the data-gathering process, the investigators worked only in classroom settings rather than in individual tutoring situations.

Methods of Obtaining Data

Attitudes of students toward computers were measured by a scale including eighteen items. For each item, four discrete categories were used: **Yes**, **Maybe Yes**, **Maybe No**, and **No**. Responses were quantified by giving weights of 4, 3, 2, and 1 for each item so that the maximum score possible was 72. This scale (see attachment) was administered to 165 students in October, 1986, prior to instructional use of the computers, and to 122 students in May 1987, seven months later. Although similar classes were used in both time periods, only 33 students were included for both research periods. The Alpha Index of Reliability for this scale was .83 at the second testing (T_2). Students were also asked seven questions that included four demographic variables, one on frequency of TV viewing, and two on prior use of computers. The instrument was administered in a classroom situation where the items were read by researchers and the students marked appropriate responses. Approximately twenty minutes were required on the average. The teacher was present in all classes to assist with and support the study.

Personal interviews were conducted with 60 students in May, 1987. These students were part of the 122 who completed the attitude scale. Those interviews provided qualitative data about how the students used the computers, their feelings about it, and the benefits or payoffs in learning to their lives. Each interview was approximately ten minutes.

In May, 1987, 18 teachers from CFL and LSH were also personally interviewed after they had an opportunity to use the computers in instruction. They provided information on the extent to which they had used computers and the perceived results. They also were asked about factors which motivated them to use computers and those variables which hindered their use.

Findings

For the 33 students who completed the attitude score in both October, 1986, and May, 1987, the mean score was 55.5 at T_1 and 57.4 at T_2. The difference is not significant (p = .14). Seventeen students increased their score, two remained the same, and 12 decreased. The correlation of attitude at T_1 and T_2 was .62.

The variation in usage of computers in class is related to attitude at T_2 (P = .06); that is, the more experience students had with using computers, the more favorable they were. The change in attitude score is not related to usage (p = .80). Nor is the change in attitude score related to whether students are in CFL or LSH. In fact, the center is not related to attitude at T_1 (p = .25) or T_2 (p = .17).

Personal Interviews (May 1987)

At the second testing 60 students were interviewed to probe further into their attitudes toward use of computers for instruction. Of the 60 students interviewed, 14 were in CFL and 46 in the LSH. All except two had used a computer in class. The number of times they used a computer ranged from one to 60 with 19 having used it only once. The time of use for each experience was about one hour. Only 15 used the computer more than 10 hours. The computer was generally used outside class time with a teacher or aide almost always being available for assistance.

When asked for what they used the computer, most typical responses were for typing, word recognition, basic math and spelling (See Table 1). As to how they felt about using the computer, almost all liked it, felt good about it, enjoyed it, and loved it. A few felt nervous and only one was bored (See Table 2). When asked what they liked best, most said typing, operating the computer, and spelling (See Table 3). What didn't they like? Over one half (79%) said nothing; a few felt they lacked skills to use the computer and a few lacked time. All except eight said the computer helped them learn better (See Table 4). Twenty five made use outside the classroom of something they learned by using the computer in school, mostly by helping them spell, use bank machines, type, and assist children with homework (See Table 5). Sixteen (28%) had used the computer before using it in class.

Table 1

For what did you use the computers?
(N = 60)

Responses	Frequency
Typing (learning keys)	20
Basic Math	18
Spelling	17
Reading	16
Games	10
Word Recognition	7
Learn to use the computer	5
Grammar	5
Writing	4
Crossword Puzzles	4

Table 2

How did you feel about using the computer?
(N = 60)

Respones	Frequency
Liked It	26
Good	15
Enjoyed It	7
Interesting	6
Loved It	5
Nervous	4
O.K.	2
Bored	1

Table 3

What do you like best about using the computer?
(N = 60)

Responses	Frequency
Typing	7
Operating computer	7
Spelling	7
Gives clear instruction	5
Can make mistakes without embarrassment	3
Can go back and review	3
Reading	3
Speed	2
Pride in accomplishment	2
Nothing	2
Motivated me	1

Table 4

How did the computer help you to learn better?
(N = 48)

Responses	Frequency
Spelling	6
How to get correct answer	4
Show you about mistakes	3
Keeps my attention	3
Helps with typing skills	2
Computer use skills	1

Table 5

How did you use what you learned on the computer in your family or community? (N = [illegible])

Responses	Frequency
Read better	4
Math	3
Spell better	2
Typing skills	2
Help children with homework	2
Increased self-confidence	2
Use bank machines	1
Job advancement	1
Writing stories	1
Taught computer to other	1

Teachers' Perceptions of Using Computers

The following observations are based on interviews with 3 teachers at CFL and 15 at LSH in May, 1987, after IBM computers had been in place for about six months:

1.) Software programs are sometimes inadequate for needs of students in literacy classes, often not advanced enough for the ability level of students, non-existent for selected subjects, or culturally not relevant. For example, social science programs are not available for adults. Software should be evaluated and adapted to needs of adults in literacy classes. Teachers and students, however, said that they did not enjoy completing software evaluation forms. The software used by the teachers was donated by IBM as part of the grant.

2.) Students are very favorable to the use of computers in literacy instruction; they enjoy the experience and find it personally rewarding. They gain self-esteem and feel a sense of control over their lives. Teachers have an opportunity to capitalize on use of computers as a motivating factor in teaching literacy.

3.) Students learn computer skills, especially typing in addition to the subject matter being taught. Students need an adequate level of operating computer skills to maximize use of computers by teachers in various subject matter areas (reading, writing, and math).

4.) Teachers who have favorable attitudes toward computers and who have personal skills in using computers expend more time and effort to use computer assisted instruction. Teachers who have access to computers external to school are more likely to use classroom computers for the instruction.

5.) Most teachers have not yet integrated use of computers into classroom curriculum instruction. Most teachers were using computers as an extra activity which competed with time needed for other activities, such as test preparation. Computer adoption includes many stages and is influenced by many internal and external variables. Teachers need continuing professional development opportunities for integrating computers into classroom instruction.

6) Teachers are not in agreement on which subjects can be taught best by computers or the level of students who can best learn through computers or whether computers can aid in retention.

7.) Having computer support staff available to assist teachers is a major factor in adoption of computers in teaching literacy. Scheduling time for teacher inservice was considered as an important facilitating factor in teachers' use of computers in instruction.

8.) The positive support of administrators is a factor in having teachers use computers as demonstrated by the administrators' attitudes, personal interests and skills, and their allocation of needed financial resources. For example, scheduling classes to permit time for use of computers in a necessary consideration.

9.) Making computers physically accessible to students is important in computer adoption.

Summary and Conclusions

The students in this study had very favorable attitudes toward the use of computers in classroom instruction, the attitudes toward computers increased at a modest rate, although the change was not statistically significant. The demographic variables investigated were not related to attitudes toward computers.

Students feel they have received benefits from learning to use the computer both in their classes and in their personal and family situations. Learning to use the computer is viewed by some as giving them a sense of improvement or greater self-confidence. Benefits result directly from becoming familiar with the computer. Benefits gained from improvement in reading and writing skills are longer range, whereas typing skills are more immediate.

Some of the students functioning at lower reading levels expressed the impact of computer usage in terms of "empowerment." As one woman (who is on public assistance) said, "I never thought I would have control over anything in my life . . . certainly not over a machine." Several others said that the computer made them "think" – that they were not accustomed to having to think critically about issues. Perhaps the computer helped that person access background knowledge for a reading task. On the other hand, adults in the GED program, functioning at higher reading levels, tended to view the computer as a tool. They expressed that they could learn from computers, but they also could learn equally well from books.

Factors which facilitate adoption of computers in instruction are both personal and organizational. Teachers with favorable attitudes toward computers and skill in using computers need assistance in integrating optimal use of computers and in the availability of appropriate software programs themselves before using them with students so that they detect any potential problems and discover how to use the software with their students. Access to computer by both students and teachers is important also. Allocation of financial resources to provide administrative support (for example, in released time for teacher inservice) is viewed by teachers as essential. Computer adoption in teaching literacy does not happen at once. Time is necessary to move through stages of adoption including awareness, interest, trial and error, and finally integrating computers into the curriculum.

Additional research is needed on integration of computers into literacy instruction from the viewpoint of the student, the teacher, and the administration. For example, more information is needed about questions such as: What types of students benefit most? Which types of instructional programs are most effective? What is the optimum allocation of time to instruction using computers as opposed to classroom or tutorial instruction? What kinds of inservice training and other support services are most beneficial to the teacher? What types of environments encourage the use of computers? What is the role of the instructor in the use of computers? How can teachers and tutors best support each other in the use of computers and other tools for instruction? How can administrators best encourage the use of computers in instruction?

Computer technology is perceived as an asset in teaching literacy. It is a tool with great potential, but more research is needed to develop appropriate software, to combine various technologies effectively, and to help the instructor integrate the use of computers into ongoing instruction to make maximum use of the hardware and software.

Attitudes toward microcomputers for reading instruction

1. Is it important for you to learn how to use a computer for reading and writing?

*2. Does the thought of using a computer for reading and writing make you feel nervous?

3. Would using a computer for reading and writing make other people think more highly of you?

4. Would your family be proud of you if you learned how to use a computer for reading and writing?

5. Could a computer for reading and writing make other people think more highly of you?

6. Would you read and write more often if you could use a computer for instruction?

*7. Would you be afraid to enroll in a reading and writing program that uses computers for instruction?

8. Could a computer help you to become a better reader?

*9. Would learning to read from a computer be more difficult for you than from a book?

10. Would you feel confident or sure of yourself in using a computer for reading and writing?

*11. Would you prefer to have a person rather than a computer teach you reading and writing?

*12. Is it a waste of your time to learn how to use a computer for reading and writing?

13. Do you think you would like using a computer for reading and writing?

14. Would you like reading and writing better than you do now if you could use a computer?

*15. Would reading and writing on a computer be boring to you?

16. Would you like your teacher/tutor to use a computer for reading and writing instruction?

17. Is it a good idea for you to use a computer for reading and writing?

18. Do you think learning to read and write on the computer would be interesting?

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* Scoring system was reversed for these items. For other items **Yes** was scored 4 and **No** was scored 1.

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READING FOR THE RELUCTANT

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Context

During several years as director of an alternative program for troubled youth, the author completed 75 descriptive profiles of 12 to 16 year old students who were referred to the school for various offences. The school, The Community Learning Center (CLC), accepted children from the seventh to eleventh grades referred for status offences, refusal to obey the rules of the household, and expulsion or suspension from school. The school accepted no children referred for criminal offences.

During the three years the researcher served as director, data were gathered on one out of every three who entered the alternative school. Data was of two types:

1.) documents which the referrals generated;

2.) anecdotal records of students' performance, contacts with parents and school personnel.

An item analysis of the data was conducted at the end of the data gathering, yielding a profile of the average student in the program. By the time a student arrived in a program such as CLC, he or she was, by definition, in danger of being lost as a productive member of society. These children were either out of school or disengaged in school. They extended the rebellion of adolescence to a level which brought them to the attention of the juvenile court. They were not criminals, but many of them were in danger of serious offenses. Most of them were on local probation to the court and were under the supervision of a youth services officer.

Analysis of the data found that sex, age, race, SES, and intelligence (as long as it was in the normal range) were not predictors of which students were referred to the program. However, a number of factors were held in common by the subjects. First, all but two were from single parent homes or homes which had recently added a step-parent. Counseling with these parents indicated that all worked, and all found it difficult to spend much time, if any, with a child. A single mother, for instance, who works 40 to 50 hours a week and then who has to pay bills, wash clothes, clean house, get the car fixed, and so on, is usually not home before six and is then busy with the necessary chores of living. It is difficult, if not impossible, for this mother to supervise an adolescent in the way she might want. Often, adolescents take advantage of this situation and get in trouble. Secondly, these students appeared to be delayed in their emotional development. As a result, they were doing badly at the adolescent tasks of self identity, independence, and self development. They appeared to be still dealing with the tasks of late early childhood. In other words, they were similar to the egocentric adolescents described by Elkind (1984) in *All Grown Up and No Place to Go: Teenagers in Crisis*. The conflicts inherrent in this situation led these children to many of the self-destructive actions they undertook. As a group, these students were unable to appreciate consequences of acts, unable to defer rewards, unable to visualize the future, and had a poor appreciation of productive relationships with others. Their relationships with authority figures were strained, and they had a poor understanding of the responsibilities and obligations of a loving relationship. They tended to be self centered, selfish, ruthless in pursuit of their own gratification, and unconcerned with the future. Most appeared to have lost the thread of cause and effect; they appeared to view life as a series of discrete, unconnected, and random events.

The one attribute that served as a predictor for this group was intransigence, the stubborn resistance to demands and responsibilities placed on them by parent, school, and society. All were low performers in school, with decayed or non-existant academic skills. They could not maintain silent sustained reading for more than five minutes; they had poor organizational abilities and poor logical processing skills. All could read aloud without comprehension, but few could paraphrase content or infer meaning from text. Few could answer more than the most simplistic questions about facts contained in text. None of these students read for pleasure or for their own purposes. None, in short, could exhibit comprehension skills that might help them in traditional academic pursuits.

The Program

It was clear to the staff of CLC that several events would have to happen to lead these children toward more productive pursuits. first, these students would have to be put on task. The highly structured nature of CLC enabled staff to put students on task in ways unknown to the more standard public school. Secondly, it appeared imperative to address decayed (or never developed) academic skills. Junior and senior high school curricula require that a student be able to read effectively in order to comprehend facts, sequence, inference, or to draw conclusions from what he reads. In the absence of these skills, a student will find his academic subjects difficult, if not impossible. These students uniformly exhibited a lack of generic literacy skills.

Students must be put on task, and the task must be an appropriate one (Mikulecky, 1987). Many of these students had learned to copy from texts and reference books, word for word, in response to assignments. Most had several techniques to avoid reading for meaning. At CLC, students are not allowed to use an avoidance technique of only appearing to comprehend; students are required to respond in writing to lessons. The program itself is structured so that attempts by students to communicate using non-verbal signals, notes, whispers, etc. are quickly quashed. The classroom is therefore conducive to study and introspection. Students are encouraged to be on task; they are punished (i.e., their few hard won priviledges are revoked) when they are not and praised when they are. Success is a given at CLC. If a student scores less than an 80 on a lesson, he must do it over until it is mastered. Thus, all grades are good ones, and students receive the self respect that comes from conquering a challenge. Success feels good to most people, and these students are no exception.

The reading tasks at CLC have a context. Having passed that point in the curriculum, none of these students were receiving reading instruction at public school. All expressed disgust and disdain with the usual methods of reading instruction. They complained of boring stories, worksheets that had nothing to do with anything, and general incomprehension of what the instruction was supposed to accomplish. They were bemused by the concept of individual reading skills, seeing no connection between them and anything in real life. As a result, CLC shelved its basal readers, its vocabulary controlled "high interest" supplements, and its workbooks. It was clear beyond any question that these were useless.

What was also clear was that these students needed a meaning for their efforts and a reward for good performance. As a result, the CLC staff immersed these children in reading;. Assignments were structured in such a way that students had to comprehend the lesson in order to respond. Copying was prohibited; those who failed the lesson repeated it. These two practices alone led to a greater amount of reading for most students than they had done in years. when a student must read a chapter in history or science and truly comprehend in order to avoid repetition and to receive praise or reward, he will read more attentively. Also, since CLC is non-interactive between students, they were handed books when they had free time. They liked the staff's personal books best, since they scorned "adolescent literature". Staff gave them historical fiction, spy stories, adventure stories, animal stories, and science fiction. Books such as *The Deep*, *Watership Down*, *Where Eagles Dare*, and *A Tale of Two Spies* were in demand. Students were allowed to talk quietly at lunch. During this time, the director usually read silently. He told his students that he needed a vacation from them and that reading was a way to leave without going. The book he had just finished was usually the most in demand, since it was a sure bet to be a "real" book.

Putting students on task and immersing them in reading forced them to practice. It is a truism to say that one must do something in order to be able to do it, and it became more and more clear that one must read in order to be able to read. A student who is intent on understanding a passage for his own purposes will find a way to do so. He will process the whole. The contrast between this notion and the usual progress of basal readers and "high interest" supplements was startling.

Outcomes

The results were dramatic. The staff observed that most students left CLC no better able to read aloud than when they came, but their ability to read with ease for understanding skyrocketed. Their ability to respond in writing to reading, to outline, to paraphrase, to infer, and to conclude increased in ways that were astonishing. Typically, a student who could not read for more than five minutes became able to sustain silent reading for thirty minutes or more. Many conversations between students and teachers arose from this new-found ability. Students discovered for the first time the significance of the Stone's River Battleground, the nuclear labs at Oak Ridge, and who lived in the Hermitage, all of which were located in their immediate environment.

About 50% of the students who entered CLC were still in school and out of trouble a year later. It seems clear that this turnabout on the part of so many high risk students is related to two events. First, students in CLC learn to control their own behavior. They discover that it feels good not to be subject to constant trips to the principal's office, to constant criticism, and to constant negativism. Secondly, when they enter, these students, as a group, have lost the ability to comprehend printed material well enough to perceive any possibility whatever of success in school. In returning and sharpening their skills in general literacy, in showing them a connection between reading well and self respect, CLC uses task, context, and practice to change much more than students' ability to infer, paraphrase, and conclude. Literacy and self discipline, for these students, becomes one of the primary determiners of their ability to mesh into the mainstream of their society and survive there.

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TEACHERS AS MANAGERS OR DECISION MAKERS? TECHNOLOGY VERSUS DELIBERATION IN TEACHING

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Technological and deliberative orientations to teaching, along with their impact on the teaching of reading should be given attention by personnel in reading. In addition to comparing both approaches, arguments can be examined regarding when teacher preparation and professional development should be driven by these orientations.

The research base on teacher education can be interpreted as providing two polar orientations toward teaching: technological and deliberative (Zumwalt, 1982). The technological orientation, grounded in early behaviorism, describes effective teaching in terms of behaviors (procedures and routines) that produce desired educational outcomes, often narrowly defined as increased achievement test scores. Effective teaching behaviors can be derived from the process-product research conducted over the last decade. Presumably, improvement in teaching is attained by training teachers in executing the behaviors demonstrated by their effective colleagues.

In contrast, the deliberative orientation, underpinned by cognitive psychology, views teaching as a rational activity that requires knowing, thinking, planning, and problem solving in a setting that is in a constant state of flux. Improvement in teaching is achieved by helping teachers develop the knowledge structures necessary for solving practical problems related to instruction, as opposed to training them in the "moves" of teaching.

It is possible to demonstrate that both orientations have a role in the preparation and on-going education of teachers. However, concern exists that many states, including North and South Carolina, Virginia, Tennessee, Texas, and Florida, have adopted educational reform programs based solely on the technological orientation. After examining the content and initial implementation efforts of these programs, one might conclude that little positive impact can be expected. In fact, there is a real danger that these programs will institutionalize many questionable teaching practices based on a simplistic recipe model.

At the root of the problem is the use of achievement test scores as the sole outcome measure of effective teaching. Because this outcome is correlated to the teaching behaviors described as effective, it is assumed that a cause-effect relationship exists. Ignored is the reality that achievement tests are designed to use a power testing approach to sort students, not to test the effects of instruction. Furthermore, since the product is achievement test score gain, processes that have no clear correlation to these outcomes seem to be ignored. Thus, characteristics such as knowledge of subject matter, enthusiasm for teaching, and affective behavior are not included in the operational description of the effective teacher. While the scientific aspects of teaching are extolled, the artistic elements are ignored.

Technological Versus Deliberative models of teaching

Each orientation to teaching is buttressed by very different assumptions about teaching; Figure 1 organizes and contrasts these assumptions.

The first set of assumptions that delineates these two orientations to teaching involves the role that the knowledge base in education plays in instruction. From the technological perspective, knowledge is prescriptive: Research results provide scripts to be followed by teachers. From the deliberative perspective, knowledge provides the grounds for making instructional decisions. Teachers use knowledge to guide instruction, accessing relevant cognitive structures based on classroom cues.

Assumptions about knowledge are closely related to assumptions about the classroom setting. The technological orientation regards the context of instruction as stable. Instructional problems are essentially identical across classrooms. They can be identified with precision in advance, and require only the implementation of an existing prescription. In contrast, the deliberative orientation views the classroom as unique and complex. Instructional problems can often, but not always, be anticipated, and require variable and often transient solutions.

These views of knowledge and the classroom setting dictate the role of the teacher. The technological viewpoint places teachers in the role of maintaining an appropriate classroom management situation which is necessary for the proper execution of pre-determined teaching scripts. From the deliberative perspective, the teacher must assume the role of decision maker, choosing from alternative courses of action based on a personal interpretation of the classroom context and the relevant knowledge base. Thus, the technological teacher is tied to prescribed routines, while the deliberative teacher uses meaningful routines, making appropriate adjustments in instruction according to the context.

In the technological orientation, the locus of control is outside the classroom. Teachers are expected to implement the instructional decisions of authorities, such as authors of instructional materials, state departments of education, curriculum coordinators, principals, university professors, consultants and assorted other experts. In the deliberative orientation, the teacher remains in control, taking into consideration the opinions of authorities, but maintaining final decision-making authority.

It follows from the technological orientation that the breadth and depth of teachers' knowledge about curriculum, scope and sequence of instruc-

Figure 1

Assumptions underlying two orientations to teaching

	Technological	Deliberative
Knowledge base on education	Prescriptive	Grounds for decision making
Classroom setting	Stable, predicatable	Unique, complex
Role of Teacher	Manager who executes scripts	Decision maker who interprets and implements
Locus of control	Authority outside the classroom	Teacher
Teachers' knowledge	How to implement pre-existing curricula and materials	How to anticipate instructional problems, modify curricula and materials
Innovations for practice	Adopt	Adapt
Organizational model	Top-down	Botton-up

tional programs, and the quality of educational materials are less essential. It is important to know how pre-packaged curricula and commercial materials are organized and utilized, but knowledge to initiate differential use becomes unimportant. In the deliberative orientation, teachers must also know how curricula and materials are organized and used. Further, they must be able to recognize if instruction is unlikely to facilitate learning for a given student or group of students, and develop instructional alternatives accordingly.

In summary, innovations for practice in the technological orientation are adopted by the teachers at the directions of others, while in the deliberative orientation, innovations are adapted to existing contexts at the discretion of the teacher. The power to make instructional decisions in the technological model lies at the top of the organizational hierarchy. It is best viewed as a top-down organizational model. In the deliberative orientation, the decision making power rests with the teacher, within parameters dictated by the educational knowledge base. This is described as a bottom-up organizational model.

An important question thus becomes "Who ought to be empowered to make instructional decisions?" The answer must be based on who is most likely to make the best decisions for students. This would vary, with the most important factor being the experience and expertise of the teacher. Inexperienced or poorly prepared teachers should not be placed in positions of authority. From one possible perspective, teacher preparation content could largely be derived from the technological orientation. Prospective teachers should be required to demonstrate the basic skills and behaviors drawn from the technological orientation. Technological knowledge, then, is desirable for initial teacher education and certification, as well as for forming essential knowledge structures critical to deliberative teaching.

The content for professional development after initial certification should stem primarily from the deliberative orientation. Knowledge of this kind would establish criteria for points along career ladders and provide the structure for ongoing supervision and inservice education. Thus, skillful teachers could identify precisely how to improve their teaching.

The Current Dilemma

When a single orientation, the technological one, is used as the basis for most major personnel decisions, the whole opportunity for professional diversity narrows. A truncated view of effective teaching, designed to describe some teacher behaviors, is often used as the base for teacher evaluation instruments. This same orientation may also be adopted as basis for criteria to describe effective student teaching. It then is used to describe expectations for teacher movement on career ladders, and finally, as a benchmark for awarding merit pay or other performance incentives. All this has the effect of making the technological view of teaching the only acceptable one, leaving the deliberative orientation as a disincentive to practice. A single interpretation of knowledge is dangerous for education.

To illustrate the dilemma, one can examine an issue where the technological and deliberative orientations are clearly at odds: the current research base on questioning. Effective teaching research (and hence the technological veiwpoint) suggests that teachers ask questions at a brisk pace, with a high rate of student success. It is also suggested that most questions should be at the literal level of comprehension. Ignored is the fact that a decision to use questioning as an instructional strategy is complex and requires more information than the procedural knowledge of a simplistic cybernetic-like routing. And yet, little treatment of levels of questioning appears in the literature on the use of questions for effective teaching. Obviously, higher-order cognitive questions are not amenable to a brisk pace with a high rate of success.

The research literature provides incomplete and even contradictory answers to important concerns about the use of questions. Do the instructional effects of questions vary with age? Most of the research on questioning has been conducted with older students, making generalizations to other populations difficult. Should questions be written or oral? Most of the research has investigated the use of written questions presented before, after, or interspersed in textual material. Results from this body of research are often, and incorrectly, applied to lectures, recitations, and discussions. At what point in a lesson should questions be used? The answer depends on what research one reads; the effects of questioning seem to vary with the kind of question asked, subject matter and expected learning outcomes. If this state of the art on using questioning as an instructional tool is not confusing enough, some authors like to point out that a coherent (and research based) argument can be made for limiting and even eliminating questioning (Dillon, 1978).

Recent research (Collins & Stevens, 1983) on using questioning/discussion as a teaching strategy reveals that expert teachers use questions differently, depending on goals and content area. At least seven goals can be identified when questions are used to probe students in order to get them to develop or use higher order thinking skills in processing information: form hypotheses, test hypotheses, make predications, consider alternative predictions, reveal misconceptions, trace consequences to contradictions, and formulate alternative hypotheses. Expert teachers also use rather sophisticated strategies in the selection of cases and exemplars to engage students in thinking about the relevant and irrelevant aspects of problems and content.

An additional problem involved in the use of questions involves the appropriate length of time a teacher should wait for an answer. Research has demonstrated that when teachers provide students with wait-time, there is a qualitative increase in students' cognitive processing of information. But this is only part of the research results. On the one hand, the preponderance of evidence reveals that teachers can be helped to provide wait-time for students. On the other, the evidence reveals that the effects of training teachers in providing wait-time quickly diminishes and teachers revert back to their regular questioning routines.

There are explanations for these results. Kounin (1970) argues that teachers avoid breaks in the flow of instruction. Observations reveal that breaks in instruction are the most opportune time for pupil behavior problems to arise. Studies of interactive teaching also reveal that teachers avoid pauses and breaks that have high probability of interrupting critical moments in teaching. Thus the practical knowledge acquired by teachers on the job seems to suggest to them that wait-time creates problems. As a result, even after being trained to provide wait-time, they soon fall back on their previously acquired questioning routines in order to avoid disruptions in the flow of instruction.

Finally, a review of teacher evaluation procedures provided by many "effective teacher training" programs reveals that teacher questioning is the only instructional strategy identified for observation. Needless to say, the inference to be made by both teachers and evaluators is that questions should are used as a predominant form of instruction. This is most unfortunate, given the wide variety of tested instructional strategies developed over the last two decades.

There is insufficient evidence for confidently suggesting to teachers that asking students questions at a brisk pace is a benchmark of effective instruction. In more cases than not, this advice results in teachers becoming interrogators of students. Students learn little more than the idea that school and learning are nothing more than exchanging correct answers for grades.

Such a simplified treatment of questioning as an instructional routine represents merely a minimal level of professional performance. Once this basic knowledge has been established, teachers should be assisted in developing a more robust understanding of the complexity of questioning strategies. Both positive and negative effects of questioning should be recognized. Questions can provide opportunities to model scientific thinking, motivate students, and individualize discussion. In contrast, questions can provide negative reinforcement, reveal the ignorance of some students, turn a discussion into an interrogation, and exclude some (if not most) of the students from participation. To question successfully, the teacher must know subject matter well, be able to handle novel situations as they occur during interaction, and select and pose questions accordingly. Such teaching skills transcend the limits of the technological orientation, and require the implementation of a deliberative model.

Implications for Teacher Education

Teacher education should help teachers make the transitions from the role prescribed by the technological model to the more demanding and productive role implied by the deliberative model. This will require a change in some current conceptualization of preservice and inservice education. It is important to move from a model of "teacher training" toward models that develop the intellect of teachers. In initial teacher education, this implies that teachers should be provided with the knowledge structures and attitudes necessary for developing a "strong schema" (Anderson, 1984) for teaching. There are at least six preconditions to such a change.

First, there is a clear need to explore and more clearly define the knowledge base of teaching. Such a base should include the knowledge, skills, rules, definitions, strategies, ethics, and so forth that experts use to perform in a given context. The current work of Berliner (1986), Duffy (Punam & Duffy, 1985), and Leinhardt (Leinhardt, 1983; Leinhardt & Greeno, 1986; Leinhardt & Smith, 1985) are examples of the kinds of research and theoretical work that need to be expanded in this area.

Second, and clearly related, is the need for a change in perception of the role of knowledge, particularly research knowledge, in educational practice. Knowledge cannot be prescriptive, if the educational context is as complex as current thinking indicates. Educators at all levels must come to view knowledge as providing the grounds for decision making. The expert teacher must be able to access from knowledge structures that contain information relevant to a specific instructional moment. Thus, knowledge should be used to identify problems, create solutions and guide instruction. From this perspective, the teacher becomes a manager of ideas.

Next, the focus of preservice teacher education needs to shift away from telling prospective teachers what to do toward helping them **think** about what to do. Current teacher education programs predominantly use the metaphor of the mind as a sponge. Information should be absorbed. A more facilitative metaphor is the mind as transformer and transducer. Information is restructured and brought to bear on relevant situations. This implies the use of case study approaches. Students are initially provided with educational problems and guided in locating relevant knowledge in order to solve them. This process would incorporate such skills as reading the professional literature, discussion, problem solving, and reflecting with peers, consultations with experts (university faculty and others), and related problem solving strategies. During practicums and student teachings, students would be expected to identify problem cases, solve them and reflect on pertinent experiences.

Similarly, the continuing education of teachers must be reconceptualized. Current notions of "inservice" are tied to the technological model, and hence limiting in the development of teacher expertise. Bringing in consultants for one shot "dog and pony shows" has limited benefit. A stronger method is already at least partially in place; this is the use of conferences where teachers select from a menu of informational presentations. Conferences provide the opportunity for teachers to seek out information that can enrich their current understanding, and the knowledge necessary for putting them in cognitive control of their teaching.

Fifth, more needs to be known about "meaningful routines." The literature on effective teaching makes it clear that routines are critical to effective teaching. Evidently, routines free teachers to attend to the classroom contexts for cues on how to proceed with instruction. More needs to be known about the relationship of this procedural knowledge to the knowledge of content, pedagogy, and educational theory (Blanton & Moorman, (1987). Expert teachers are capable of accessing appropriate knowledge within the structure provided by instructional routine. How is this skill acquired?

Finally, it is crucial for teachers to be empowered and enabled. Current professional treatment of teachers often is professionally unacceptable. Every effort must be made to professionalize the conditions under which teachers work. The notion of "faculty governance," long the cornerstone of universities in Western culture, should be applied to schools at every level. Let administrators assume the role of freeing teachers to teach. And let teachers assume the role of making responsible instructional decisions. Teachers should lead the way by becoming more conscientious and professional in their performance, while simultaneously demanding the respect and consideration they deserve.

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Teacher Assessment:

THE POLICIES, POLITICS, PROBLEMS AND ISSUES: WHAT CAN WE DO AS A PROFESSION?

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At a recent meeting, J.T. Sandefur (1987) a well-known speaker regarding teacher certification testing indicated that his old grand-daddy had warned him long ago that "...there are two things that a man should never see—one is the making of sausage, and the other is the making of law." Unfortunately, this seems just as true today. As a matter of fact, those involved with teacher education, could easily believe that there is little difference.

The 1980's have been productive years for politicians and state departments of education all over the United States, and for the resulting state and national committees appointed or formed to reform teacher certification and education. Many of these "so-called reforms" have involved assessment of teacher competencies and behaviors, assessment of teacher effectiveness, and most recently, assessment of the effectiveness of teacher education programs. These assessments have often been done in the most perfunctory of manners, and then followed-up almost immediately by demeaning reports on teachers and teacher education, and such "reforms" as wide-scale teacher certification or competency testing; certificate renewal or master-teacher testing; reorganization of teacher education programs; closing down undergraduate teacher education programs; adding a fifth year to teacher education programs; and in some situations, eliminating teacher education programs. Many of these "reforms" have already proven to be nothing but political and actually harmful for the teaching profession, teachers, and teacher education (Darling-Hammond, 1987; Flippo, 1986a, 1986b, 1987; O'Neil, 1987; Shepard & Kreitzer, 1987). For instance, the general morale of teachers has been lowered, emphasis has been misplaced on the passing of tests, and the energy of many has been directed toward self-defense rather than toward more productive endeavors. In fact, some of the reforms have yielded results counter to their so-called intentions. For instance, Flippo (1986a, 1986b, 1987) reports that the teacher competency or certification tests have hurt the public image of teachers; Flippo (1986a, 1986b) and Ortman and Tanney (1987) report that very few people are actually being screened out by these tests; while Flippo (1986a), Darling-Hammond (1987), Loadman (1987), Sandefur (1987), and Shepard and Kreitzer (1987) report that teacher education programs are modifying their instruction to fall in line with test objectives and many are teaching the test.

Although those in reading and teacher education have often abhorred these reform measures, the sad fact is that we have been able to do very little about them. The problem is that we have been "reactive" in our distress rather than "proactive" and strategic like our political counterparts. We in reading and teacher education have not had the time, or taken the time, to plan ahead and confront these very political decisions and reforms before they are decided. Once the politicians decide that a certain reform is necessary to satisfy their constituents, and the political balls start rolling at the state or even local levels, there is little that we can do to change their direction. However, if we could be proactive and anticipate the kinds of decisions that could be made based on the political climate locally, or in the state, region, or nation, we could possibly influence the decision or outcome before a decision is made.

But, how many of us have that kind of time or energy or know-how to be political and gather the relevent data that would influence the decision makers? Not too many of us, particularly in reading education, do policy research. This kind of research is expensive and time-consuming. But, good policy research is necessary in order to influence the politicians. They respect large numbers and cost figures, and often will base decisions between several alternatives on the long-range actual costs alone. they are influenced by quantitative data as opposed to the qualitative interpretations many of us have unsuccessfully tried to present at various task-force meetings, often after the real decisions have been made.

How do we become proactive then? How can we possibly make a difference in the very political decisions that are constantly being made? One possible way is to unite our expertise and take a stand professionally. Most of us are members of various professional reading groups. Groups that contain tremendous expertise and know-how. Why not use this pool of expertise to address major potential issues that should effect our programs and graduates before politicians make decisions for us? Sub-committees or ad hoc committees from the various interested organizations could meet and delineate specific areas of concern on which they mutually agree. We do have to be careful, as the professional organizations to which we belong enjoy tax-exempt status, and they could lose that status if they began active lobbying efforts. However, nothing is to prevent our professional organizations from identifying interested and able members to work together and with education policy researchers from other organizations to conduct studies and provide numbers that would influence decision makers.

For example, the emerging issue of "cultural literacy" might be sleected by the reading organizations as a crucial area of concern before large-scale "cultural literacy competency tests" for students and teachers become mandated by states and school systems, with probable encouragement from test developers. Research studies could be planned and conducted to provide data regarding the efficacy of memorizing long lists of words, or the correlation between reciting terms, dates, titles, and other words prescribed by Hirsch's (1987) list and various literacy variables selected by reading researchers.

There are many lobbyists who could use these findings to argue against decisions that can hurt education. We do not have to do the lobbying ourselves. It is time that the reading organizations begin to examine the similarities of their interests and purposes, rather than dwell on their differences, and work together to make a real difference in future political level "teacher or education reform" decisions.

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READING AND WRITING AS TOOLS FOR INDEPENDENT LEARNING: THE CONTENT AREA CLASSROOM AT THE CROSSROADS

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The integration and use of the reading and writing processes in our schools has, in recent years, received considerable attention. This heightened interest has, no doubt, been intensified by the publication of reports like the *Writing Report Card* and the *Reading Report Card*, which identify deficiencies in both instructional practices and student achievement. As a result, publishers have literally saturated the educational community with articles, books, and communiques on this issue; one can scarcely pick up an educational journal without finding an article focusing on reading and writing. The integrated role of reading and writing has truly "become the educational parlance of the 1980's" (Langer, 1984).

Although the educational community seems very much taken with the idea of using reading and writing in the classroom, only minimal attention has been devoted to how the students or learners actually use these processes. Indeed the focus has been on the processes themselves and how cultivation of these processes can make the student a better reader or writer (Atwell, 1987; Tierney, 1983). The question of whether students actually use these processes in their personal learning routines is one that has received little attention.

A number of studies have focused on using the reading and writing processes to strengthen student reasoning, thinking, and comprehending (Langer & Applebee, 1985; Langer, 1986a; Langer, 1986b; Cunningham & Cunningham, 1987). This interest has been embraced by the educational community as greater numbers of teacher training programs require their pre-service teachers to take some sort of content area methods course which incorporates attention to the importance of these two processes (Farrell & Cirrincione, 1984). In the same light, many school districts have begun to provide in-service training for their content area teachers in an effort to strengthen their teaching and enhance student learning.

While this trend receives prominent treatment in the literature, there is evidence to suggest that many educators are still not incorporating these processes to the full extent of their potential. In fact, both reading and writing appear to be used for "very limited purposes in most classrooms — primarily to monitor. . . evaluate" and obtain superficial or literal facts (Applebee, 1981; Graves, 1978; Goggin, 1985; Langer, 1986b). When questioned about using these processes in their classrooms, a majority of content area teachers respond that their role is to cover the material and that the English or Reading teacher will have to deal with helping students learn to read and write (Goggin, 1985).

The strength that reading and writing hold for content area learning lies in their nature as tools for facilitating the independence of learners. As learning tools, reading and writing initiate and maintain private instances of meaning making; they assist the student in personally clarifying or developing meaning (Goggin, 1985). In these instances, meaning making and learning become transactions which take place between the context of the text or classroom activity and the individual learner (Goodman, 1984). Reading and writing are the tools which help a learner to make this transaction. As learning aids, reading and writing provide the individual with a means for clarifying thinking about a subject (Goggin, 1985). These tools further assist in this clarification by allowing individuals to organize their new learning or ideas in different ways (Langer & Applebee, 1985), thus extending or strengthening the transaction.

Investigations have already been undertaken which explore the reading and writing processes in light of how they are used with students in content area classrooms (Langer, 1987; Goggin, 1985; Langer & Applebee, 1985). However to explore the roles that reading and writing play as tools for independent or self-sponsored learning will necessitate a drastic shift from a focus on the processes as classroom-bound devices. As yet, no research has been reported which directs its focus on the nature and use of reading and writing when chosen as tools for self-directed learning.

Design and Context

In examining whether students chose to use reading and writing for content area learning, the author became a part-time observer in two suburban classrooms of mixed ability students. One class was a fourth grade, self-contained classroom with approximately 18 students while the other was an eighth grade Science classroom involving approximately 50 students. The sites were chosen on the basis of three factors: first, the administrators willingly encouraged this sort of research in their schools; second, both teachers expressed interest in using reading and writing strategies for content area instruction and learning; and third, the classroom structures, student centered and lecture based, were divergent enough to provide for an interesting examination of supposedly similar philosophies being implemented in quite different ways.

The study was carried out over a four month period beginning in early February and ending in late May. In the fourth grade classroom, the observations were divided between morning and afternoon sessions. The afternoon periods of one and one half hours were designed to coincide with the longest period for instruction or learning in the content area classes while the morning periods of three quarters of an hour were designed to focus on instances of individual activity. In the eighth grade classroom, the observations took place during the second and third periods of the day and lasted for approximately one and one half hours.

The initial method of data collection was observation, where descriptive field notes and anecdotal records were kept and later transcribed onto prepared data collection sheets. The investigation began with a series of general observations in both classrooms during which the physical nature of the classroom was mapped and the natural social learning situations noted and described. As identifiable behavior patterns emerged, the observations became focused on groups of students who tended to congregate in social learning situations.

During this focused observation, my role as observer shifted to participant observer, enabling me to interact more closely with the groups of students. At this point, taped audio-recordings of group interactions as well as both teacher and student interviews helped determine their perceptions of the role that reading and writing play in content area learning. In addition, student documents were collected and examined in an effort to substantiate and extend initial suppositions.

Emergent Patterns and Categories

Data analysis began with the search for general categories within the body of fieldnotes and an immediate conflict arose in this general search. While the research question focused on students choosing to use reading and writing in content area learning, the fieldnotes collectively described situations where students in both classrooms were more often being told what to do. With this in mind, the author searched through the fieldnotes initially to identify emergent themes and patterns and later to determine how much, and what kinds of choices the students had in these described learning situations.

This analysis of fieldnotes eventually identified five recurrent patterns of classroom behavior:

> **Reading Behaviors:** These were instances where reading was the primary observable behavior. Specific examples were reading aloud during class, asking questions based upon a quick reading of the passage, or silent reading of pages or chapters.
>
> **Writing Behaviors:** These were instances where writing was the primary observable behavior. Specific examples were

responding to oral quizzes by writing answers or writing down notes or directions from information given by the teacher.

Reading and Writing Behaviors: These were instances where both behaviors were clearly being used in conjunction with one another. Specific examples were correcting and updating review sheets or old tests, answering chapter review questions, and writing reports.

Teacher Directed Activity not Reading and Writing Related: These were instances where the teacher clearly served as the director of an activity not involving either reading or writing. Specific examples were: giving oral directions, calling on students to generate ideas, and classroom management or discipline activities.

Student Directed Activity not Reading and Writing Related: These were instances where the student was clearly in control of the observed behavior. Specific examples were daydreaming, talking to one another, generating questions, and asking other students or the teacher for information.

Once these patterns had been established by the fieldnotes the author chose to examine the researcher -initiated surveys and student-defined interviews in an effort to further substantiate the situational descriptions that were beginning to emerge.

The student interviews were developed from responses to the surveys on reading and writing that the author administered during the beginning of the third month. Essentially, the author's main concern was to have the students describe how they used reading and writing to learn material for their content area classes so the author questioned them about their use of both reading and writing during and out of school. The author's reasoning for this plan of action was prompted by the review of fieldnotes which instigated a growing suspicion that much of the activity going on in the classroom, regardless of its reading and writing slant was more the result of teacher direction than student choice. The author suspected that during classes students were being directed to complete tasks on command and consequently had little choice or input in the manner or routine of completion.

As the interviews began to yield usage patterns of reading and writing, it became evident that these patterns were aligned in terms of which party initiated the use of the process or "tool." Both teacher and student did instigate use of reading and writing; however, the purposes were somewhat different.

The data eventually fell into two categories for both reading and writing use in content area learning:

-Teacher-initiated reading or writing to learn
-Teacher-initiated reading or writing for practice
-Student-initiated reading or writing to study
-Student-initiated reading or writing for fun

In the case of the categories falling under teacher-initiated, the instances of reading and writing were actually brought on or "forced" by the teacher. When speaking about reading and writing initiated by the teacher, students used verbs like "have to" and "do" preceded by the pronoun "we," as illustrated by this statement:

> ". . . we have to read out of books and we do reading with partners from like the first grade and second grade. And we have to read out of newspapers and we write stories from the newspapers. A lot of times, we have to read out loud and well. . . we do silent reading."

Student-initiated reading or writing instances occurred when the student actually chose to use the processes or "tools" for either of the identified uses. In speaking of reading and writing that they initiated for study or fun the students used the verbs "read" and "write" preceded by the pronoun "I" as in this response:

> "Well, I read and then like I tell someone what I read about so it helps me to learn, see, because I have trouble with. . . like reading and then talking or remembering what I read about, so it helps me to learn, and it helps my memory."

The further distinctions between reading and writing for learning and practice and reading and writing for study and fun were also clearly evident in the student responses. In most cases the students were specific about their choice of reading and writing and what it was supposed to accomplish:

> (Student-initiated) ". . .they ask some important words that'll be on the test in bold print so I . . .read those words over and over and then ask my mom to ask me questions about the chapter. . .and if I get a couple wrong, I go back over them until I make sure I have them right and nailed down."

Their perceptions of the teacher-initiated reading and writing were less specific and implied an understanding that whatever the teacher suggested or told them to do was to help them learn or to have them practice learning:

> (Teacher-initiated) "We have, um writing groups, and we go to the computer lab and have to write on the computer and we have writing in our journals and sometimes we just have penmanship."

Summary of Findings

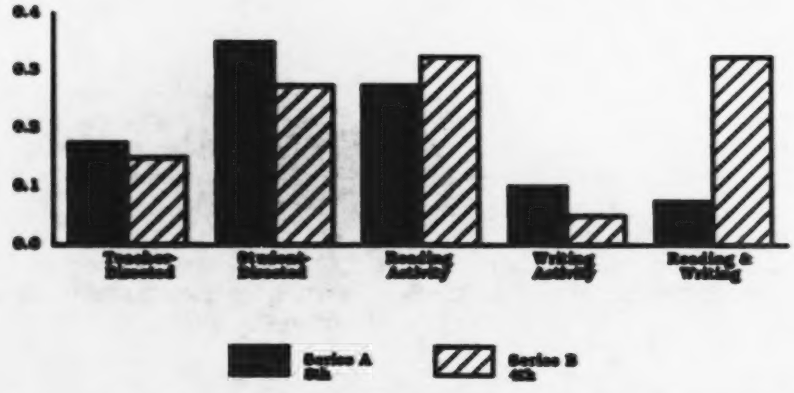
Emerging from this study are several significant notions about the nature of reading and writing use in content area learning and classrooms. Although the question was directed at determining the nature of reading and writing as student self-sponsored tools for learning in content areas, the data pointed to some rather startling aspects about the nature of classroom activities in general as well as those involving reading and writing.

An examination of the categories emerging from the fieldnotes indicated that the classroom activities were logically divided between teacher directed or initiated activities and student directed or initiated activities. The data derived from the notes indicated that the two sites were different in terms of the classroom behaviors. In the eighth grade science class, conducted largely in a lecture mode of instruction, the classroom behaviors were divided at 45% student initiated and 55% teacher initiated. Out of these classroom behaviors, only 76% involved learning or activity directly related to the content area of science. The remaining behaviors involved the teacher disciplining students or the students choosing to daydream or focus on something other than the task at hand. In the fourth grade class, operating out of a more student-centered approach, the behaviors were divided at 60% student initiated and 40% teacher initiated. Here, the total amount of classroom behavior devoted to content learning or material was 86%. In terms of student choice of activity, the data indicated that in the eighth grade class 23% of the total behaviors were by student choice, while in the fourth grade class, 51% of the behaviors were by student choice.

A more in depth look at these classroom behaviors in terms of the reading and writing components reveals a similar breakdown of percentages between the two sites. (See Figure 1). Of the 76% of classroom activity devoted to content area learning and material in the eighth grade class, 46% involved reading and writing behaviors while of the 86% of activity in the fourth grade class, 56% was devoted to reading and writing behavior.

Table 1

Content classroom behaviors



If these percentages are further broken down to reveal the amount of student choice in the use of these two processes the differences become more marked. Here the eighth grade students chose to use reading and writing 12% of the time and the fourth grade students chose the use the processes 32% of the time.

Although the data from the fieldnotes suggests considerable difference in terms of the behavior and activity in the two sites, the surveys and interviews from both sets of students indicate a similarity of student perceptions regarding learning and use of reading and writing in their classrooms. The answers to the eight questions on the survey were quite similar with the only differences being the responses concerning how reading or writing was used in both sites. The eighth graders most common responses in this area revealed that reading aloud and answering chapter questions comprised the bulk of their classroom activities. The fourth graders' responses indicated that reading silently and creating stories, book reports, sentences, and letters comprised the bulk of their classroom activities.

The interviews also revealed striking similarities in student perceptions. In answering questions about the kinds of learning done for both classes, students' responses substantiated the earlier percentages regarding teacher and student directed activities. During the interviews, both sets of students used the terms "learning" and "study" to describe many of the reading and writing activities that they chose to do. A further examination of these instances of "learning" and "study" revealed that the context or location of these instances was usually not the classroom. Students at both sites indicated that their "learning and "study" routines or activities normally took place out of the classroom, either at their home, the home of a friend, or at the library.

Implications for Teaching

What then does this evidence imply for traditional content area instruction and learning? It would seem that student and learners do "pick-up" techniques and skills for using reading and writing during many instances of classroom instruction, for they indicate and exhibit a use of these kinds of skills in both their in and out of classroom learning routines. However, the evidence does not support an equally positive picture of the actual content area instruction taking place. From the students' perspectives and direct observation, a considerable amount of content area classroom instructional time is directed by the teacher toward a mastery or memorization of material. Is this the ultimate goal of content area learning? Or should content area teachers be more concerned with developing student abilities to think and work with material in a variety of contexts? Perhaps the time is ripe for content area educators to re-evaluate their instructional practices in terms of their true objectives and methods for attaining these objectives.

The obvious mismatch between the transactions actually taking place in the content area classroom and those the teachers intend to take place also raises some questions for educators. Further research is needed to explore the real nature and extent of student learning including the routines used to master the content area material, concepts, and strategies currently being addressed in the classroom. In addition, it would ultimately benefit the content area educator for researchers to explore the contextual nature of student learning in an effort to determine whether the students' self-directed learning is more powerful and effective than their classroom learning and to identify where the instances of this self-directed learning really happen.

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TEACHER KNOWLEDGE OF THEIR STUDENTS' LEARNING STRENGTHS AND WEAKNESSES

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This study commenced on or about December 7, 1964. Upon examination of the cumulative records of Mary, an eleventh-grade high school student whom I was concerned about in one of my English classes, I found only a scrap of paper with a terse message scrawled in pencil. This message was the only item which had a direct line to a teacher. It read: "Mary wet her pants!" and was signed by a person who indicated that she was the 1st grade teacher. The only other written items in the folder were the usual lists of tests scores. I found it astounding to discover that the only thing shared between teachers concerning Mary over her eleven years of schooling was a bunch of test scores and a meaningless little note.
unding to discover that the only thing shareder to "Toe the line" because I knew her very well (that I even knew that she wet her pants in first grade). I resisted that opportunity. I did remove the note and then looked at another student's file. I found the same thing, except no note, just scores. It seemed a viable conclusion that only test publishers "knew" our students. If teachers noticed anything, they obviously had kept it to themselves. There was no sharing of information. Why? Had no one noticed anything?

Today, December 7, 1987—23 years later, the questions persist. Should teachers be expected to know about the "Marys" of the world? Peter Johnston (1987) wrote:

> When parents wish to know about their child's development, there should be no hesitation. A teacher should be able to say 'Let me show you how Jane has developed since last month. This is what she was doing at the beginning of the year. Last year she developed to this point' (p. 748).

How many teachers could do that? How many teachers think that they *should* be able to do that? I do not think that it is a matter that is dealt with on a conscious level at all. If it was, the cumulative records kept on children would be vastly different than those currently available. Could it be as McCormick (1987) concluded:

> One of the most powerful tools of informal assessment is daily observation, which provides teachers with a chance to diagnose what students can and cannot do in real reading. Most teachers make judgements about the ability of students to handle material in daily work and note areas where more instruction should occur, but many feel hesitant to assume that this is a legitimate form of assessment (p. 119-20).

If such is the case, then much work has to be done to convince teachers that what they do diagnostically is valuable and that they must share it if students are to profit from their expertise as much as possible. However, there is another prominent question that must be asked: Can and do teachers diagnose? Johnston(1987) seemed to address this question when he stated:

> I have a simple test of teacher evaluation expertise which can be used as a self test. Look at the extent and quality of an impromptu description of a partcular child's literacy development. Two features which will most evident in an expert's description will be an emphasis on *processes* and an emphasis on *what the child can do.*

> Unless we know our children it is not possible to tailor our instruction to their needs, particularly in the language arts, which require a supportive, communicative context. We must observe and listen, and if they will not talk, we cannot listen. (p. 748).

Thus, there seems to be agreement that teachers should be expected to know about their students and should be and probably are proficient diagnosticians. Whether they share their conclusions or not is another question. Johnston's mention that there should be an emphasis on processes and on what the child can do seems to fit well the characteristics for good readers pointed out in *Becoming a Nation of Readers* (Anderson, et al, 1985). One would expect to see a focus on strategies. The four cueing systems mentioned by May (1986): syntactic, semantic, graphophonic, and background match well with Johnston's idea of *processes*. We can expect readers to display proficiency in the cueing systems. This study concerns how teachers describe their students' learning.

Subjects and Procedures

Subjects were fourteen (14)students who had been referred to the University Reading Center for diagnosis and remediation of perceived reading problems. In the final analysis, twelve (12) students, third to ninth grade, were included in the study. Two were dropped because their teachers did not return questionnaires. Questionnaires were sent to all of the known teachers of the students. There was a possibility of 25 returns for the 12 students. The final tally was 15 out of the 25 or 60% return. Three students had two teachers return their questionnaires, while the others had one.

Instrument

Each teacher was sent a letter which stated the following:

> ________has been referred to the Center for a diagnostic evaluation and future tutoring. Since we only see a child for a short time, your input is extremely important in helping us to understand this student. Your comments will aid us in focusing on particular problems that this student has. We also are interested in areas of strength that the child has shown.
>
> Thus the questions are: *HOW DOES THIS STUDENT LEARN? And WHAT SEEMS TO IMPEDE HIS/HER LEARNING?* You may use both sides of this form plus any additional paper necessary.

Expectations

The form bore a letterhead indicating that it came from the University Reading Center and in many cases the child was referred to the Center by the teacher participating. The teachers were not aware that their responses were to be utilized for research purposes regarding their diagnostic prowess. The author expected that the teacher comments would be especially directed toward the reading ability of the students. It was also expected that comments would specifically relate to the four cueing systems: syntactic, semantic, graphophonic, and background (May,1986).

Results (Summarized)

HOW DOES THIS STUDENT LEARN?

Most of the replies were very general in nature and did not involve reading at all. Some examples are:

a) auditory learner
b) needs lots of repetition
c) one-to-one (frequent response)
d) hands-on
e) with partner
f) visually and tactually

In the great majority of cases, teachers commented on some strengths such as artistic ability, good personality and/or attitude, happy, etc., instead of addressing the question of how the student learned. Overall, there was very little information that a teacher could use in teaching any of the children. My favorite answer was "I don't know. I haven't given a modality test."

WHAT SEEMS TO IMPEDE HIS/HER LEARNING?

Answers here dealt with two areas: generalized skills and behavior/general attributes. The *skills* area was represented by such comments as:

a) hasn't retained decoding skills
b) trouble decoding and misreading words
c) trouble with short vowel sounds
d) misreads or skips words
e) some reversals

The *behavior/general attributes* area included such comments as:

a) distractable-dawdles on worksheets
b) frustrated
c) low self-concept
d) slow in thinking
e) delayed visual perception and motor skills
f) disorganized
g) lacks self-discipline
h) doesn't follow directions

Most answers were listed for only one or more pupils.

Discussion

This study centered on the extent of teachers' knowledge of their students. The results showed that such knowledge was quite general at best. Little was connected with the widely held view of reading as an interactive process. There was almost a total absence of specific strategy statements which could result in direct teaching. Instead, there were many statements involving what impeded the students' learning. In effect, one has to conclude that the teachers did not have a very good idea of how their students learned, but quite a bit concerning what impeded their learning. One has to wonder if teachers expect such a question. There seemed to be a lack of response concerned with the *process* and *what the child can do* that Johnston (1987) wrote about. Could this be due to McCormick's (1987) belief that teachers don't believe in themselves as diagnosticians? Are cumulative files quite lacking in the area of usable teaching strategies because teachers don't formulate them in general and don't have any expectations of giving or receiving any "hints" from other teachers? Have we lost our focus on the individual in our schools? Did we ever actually have it? This research would support a follow-up study to further explore this topic incorporating suggestions such as:

1.) Specifically focusing questions on reading rather than on learning.

2.) Adding a question urging teachers to provide specific approaches that could be used to assist the student, such as language experience, computer, linguistic emphasis, etc.

3.) Providing a direct statement on how the responses would be used to assess diagnostic skills of teachers.

4.) Recognizing that teachers, in self protection with concerns about damaging students, hesitate to provide anything other than general information on school records that public law mandates being open to review by an increasingly wider audience.

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PREPARING CHILDREN FOR THE READING TEST OR TEACHING THE UNIVERSE OF DISCOURSE

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Introduction

Reading tests operationalize reading objectives. Like it or not, the tests, perhaps more than any other element of schooling, answer the question, "What does it mean to read." Test behaviors tell teachers what it is children should be able to do and specify the context within which that desired behavior is to be produced. When they are mandated and when their results determine important decisions such as student promotion or teacher evaluation, tests necessarily become the model for classroom instruction. Students learn to define the reading task based on the requirements of the tests they take. Teachers, too, are required by state mandates to define reading in terms of the test.

It is imperative, therefore, that educational objectives for reading be appropriate and that assessment instruments which operationalize those objectives have both content and context validity (Mosenthall, 1984).

The lack of consensus regarding a theoretical view of reading makes testing of reading comprehension a dubious process. Tied to lack of agreement over what it means to read is controversy over the evaluation of reading as a global behavior or as discrete subskills. Criterion referenced tests required for school promotion make it clear, at least in the state of Georgia, that the subskills approach is favored. Within the subskill orientation of reading tests, however, there still remain options for choosing texts and questions which inform students and teachers that reading is a form of communication.

Most criterion-referenced and norm-referenced reading tests provide students with a reading passage, followed by multiple choice questions. The format for questioning helps determine the nature of the test, but the kind of reading material also influences the nature of the test. Different varieties of text make different demands on the reader. Research is increasingly pointing to the nature of text as a significant variable in reading comprehension. In the past, educators have attended to the readability of text at the word and sentence level. Currently, however, the form or structure of the text and its completeness as a communication unit (discourse) are receiving attention. Teaching students about the structure of text and how to identify the sender, receiver, and purpose of the passage are recommended by some as essential components of reading.

Statement of Problem

Drawing from Moffett's (1983) discussion on teaching the universe of discourse and from recent investigations on the structure of text, the researchers wanted to know how passages from some widely used tests stack up as complete units of communication. A second, related consideration was whether test questions direct readers to consider the sender, the receiver, and/or the intended purpose of the message.

Review of Related Literature

According to Roser (1984), the measurement of reading comprehension has a long history of using paragraphs followed by questions. She added, however, that "valid measurement in the future will depend upon application of a theory of comprehension that will account for the effects of reader differences, text variables, and perhaps the instruction that occurred." Johnston (1983) reported that although current knowledge permits selection of test items which discriminate among individual performances, without a coherent, theoretical framework for reading, test makers do not know how to select items that "best measure the underlying construct of reading." (p.vii).

Moffett and Wagner (1983) described the movement toward specific behavioral objectives in the 1960's as finally leading to state legislatures "mandating minimum competencies at an undefensible level of specificity," (p.24) mandating not only the goals of education but also the "how-to" activities to reach those goals. Karlsen (1981) described the management by objectives era in which every objective has a corresponding criterion referenced test. He reported a high degree of correlation among subtest scores as verification that reading is not made up of a set of discrete subskills but is rather a general skill. Karlsen (1981) stated, "The most persistent and complex problem for those of us who develop reading tests is still the issue, What are the reading skills?" (p.v).

Moffett and Wagner (1983) maintained that research in reading and in writing demonstrates that focusing on the parts is less successful even in learning the parts than is focusing on discourse wholes. They argued against the diversion of reading comprehension into parts: "for a whole to be the sum of its parts, the parts have to be fixed and discrete. The 'parts' of comprehending . . . are relative and interactive.."

The diversity of subtests included in various reading tests comes from lack of professional consensus about what is reading (Schell, 1981). Johnston (1983) and others question the construct validity of reading tests. Johnston stated that "tests bear little relationship to actual societal reading demands," or as Casden declared (in Marshall, 1984) have little "ecological validity."

Moffett and Wagner (1983) maintained that students handle test passages differently than regular text. They know what is required and go directly to the questions. The authors cited the shortness of passages and the short time between reading and answering questions as unrealistic elements in the testing situation. Children may see testing as a different task from regular reading and not try to integrate text with schema (Johnston, 1983), thus affecting assessment of their abilities. The kinds of passages and questions may cause students to react in an "unnatural" reading response.

Johnston (1983) suggested that "a closer understanding of the relationship between reader and text and of the nature of text itself" (p.50) could improve the validity of standardized reading tests. Moffett and Wagner (1983) argued that educational activities and decisions must be based on a philosophy of language growth. "...Raw experience and human socializing are the ground from which verbalization and literacy are successively derived. Without the level before the next level is impossible" (Moffett & Wagner, 1983, p.7). The failure to approach reading and writing as purposeful forms of communication gives students a distorted view of the demands of each and ultimately creates a motivation problem.

Discourse and the Structure of Text

"The assumption underlying the more recent analysis of text is that the text is a communicative device. Someone has produced it in an effort to convey meaning to someone else. This does not seem like a big assumption, but in reading various passages in reading comprehension tests, it becomes clear that this assumption is sometimes violated" (Johnston, 1983, p. 82). Halliday and Hasan in Marshall (1984) defined the basic unit of communication, discourse, as a "complete unit of meaning requiring no additional linguistic elaboration." (p. 81). It includes all of communication in the medium of language, and may be oral or written, sent or received. Moffett (1983) described "A discourse . . . as any piece of verbalization complete for its original purpose." (pp.10-11) Moffett and Wagner (1983) held that "A complete discourse is the only language unit worthy of being made a learning unit." (p.8). Goetz and Armbruster (1980), in providing a review of the literature on the value of connected discourse for comprehension, found that "connected discourse permits the construction of a highly integrated or interconnected representation in memory that is both easier to construct and more efficient at retrieval." (p. 203 And " . . . connected discourse may be remembered better because it is processed more deeply." (p. 205).

It is the relationship between the sender and receiver and the purpose for the message that determines what form or structure a passage will take. Knowledge of "the communication trinity" (Moffett & Wagner, 1983, p. 6). sender, receiver and purpose, is essential to handling reading as a communication form. Anything less sabotages comprehension. Handling text with various structures, (i.e., with different relationships between sender and receiver and different purposes, is a key to mature and competent reading skill.

Drum (1984) wrote that "recognition of passage structure" is one of the three primary tasks of reading comprehension. "Assessment texts should include texts which are complete enough to have macrostructures" (Johnston, 1983). Macrostructures tell the reader about the purpose of the passage. Story grammar is an example of the study of the macrostructure of narrative text. Macrostructures for expository text are more diverse.

According to Irwin (1986), the study of text structure and comprehensibility is not new. What is new is the analysis of text structure in units larger than words or sentences (as was the case with readability formulae). ". . . Psychologists (are) studying the comprehension of connected discourse" (Irwin, 1986, p. 31).

Marshall (1984) described meaningful utterances as having both form (structure or organization) and function (speaker/writer's purpose for communicating). Form may be topical or temporal, while three main functions are found in discourse: (1.) to affect the receiver's emotion, (2.) to affect the receiver's behavior, (3.) to affect receiver's knowledge (Marshall, 1984, p. 82).

According to Marshall (1984) six types of discourse are most commonly found: (1.) narration, (2.) lyric (prose and poetry describing personal perception), (3.) directions, (4.) persuasion, (5.) temporal exposition, and (6.) topical exposition.

Children will comprehend better when they discern the type of discourse (form) used. Catterson (1979) suggested that teachers should guide students in the analysis of "whole selections of real discourse," teaching them to first scan the piece to determine what form is being used. She said that "Fragments of discourse analysis in workbooks do not produce the articulated thought processes needed for reading in the real world of textbooks" (Catterson, 1979, p. 6).

Bruce, as cited by Johnston (1983), has hypothesized a social interactive model of reading. Text "analysis thus requires us to consider the goals and belief of the interactants, which is in turn one type of social interaction." This model elaborates on reading as communication and may be helpful in better understanding the demands of reading. It is related to the work of use-oriented text grammarians who regard "the text as a communicative unit that occurs in and depends on a socio-communicative context" (Morgan, & Sellner, 1987, p. 171). This view of reading as social interaction must impact on the nature of testing. ". . . Recognizing that different types of text tend to represent different tasks and different problems for the reader, we need to draw test passages from different domains of text and need to be able to specify the characteristics of the domains" (Johnston, 1983, p. 26).

According to Schell (1981), the *Metropolitan Reading Tests*, the *Iowa Tests of Basic Skills* and the *Gates-MacGinitie Readings Tests* are among those published survey tests which are adequately constructed and standardized. Schell said that people make the mistake of assuming this is true of all reading tests. Still, the question remains, even for those well-constructed and standardized tests: Is reading treated as communication, analysis of discourse, evidenced by the completeness of the reading passages presented. For, as Johnston (1983) pointed out, a student's "performance on the test will depend on characteristics of the text, the nature of the task, and the context, as well as the person's reading abilities and prior knowledge." Goodman (cited in Johnston, 1983, p.20). stated that "weakness or deficiency in the tests is reflected in weakness in decisions and judgments based on them." (p. iv). Tests provide empirical data which influence decision making regarding educational objectives. They are politically powerful instruments and therefore, must elicit the best possible sample of student knowledge.

Design of the Study

In order to determine whether test passages or questions formed complete units of communication, all items from the reading sections of the following tests were analyzed:

1.) One commonly used norm-referenced test, the *Iowa Tests of Basic Skills* , Level 11 (fifth grade).
2.) One cumulative test from a basal series, the *HBJ Bookmark Reading Program Cumulative Test*, Level 11 (fifth grade).

3.) One criterion-referenced test,
the *Georgia Criterion Referenced Test*, (CRT) Edition 3
(fourth grade).

For the purposes of this study discourse was defined to mean that the sender, receiver, and purpose of the text could be identified. Thus an item designated as discourse would be considered a complete unit of communication if all three of these elements could be inferred from the passage.

Each passage or question item was independently reviewed by two examiners to determine whether or not the sender, receiver, and purpose were apparent from reading it. In cases where the two examiners' codings disagreed, a third reading professional coded the item. (See the appendix, where Sample X and Samples Y and Z illustrate the differences in items considered discourse and those not considered discourse.

In one respect all items on a test have examination as their purpose. Some items, similar to Sample Y, are written by the examiner exclusively for the purpose of testing the examinee. In these cases, the question itself formed the text to be considered. Other items, similar to Sample Z, use text written for a purpose other than testing and build directions and questions around it. Codings of items with examination as the only purpose (question as text) and those with primary and secondary purposes (passage as text) were analyzed separately. When coding the latter, only the text, not the question, were coded.

The examiners also reviewed questions to identify those which would cause students to consider the sender, receiver, or purpose; i.e., to consider the piece as a unit of communication.

Percentage of discourse passages as compared to total passages was calculated for each of the three tests. Sender, receiver, and purpose related questions were tabulated and considered in proportion to all other types of questions for each test examined.

Findings

Table 1 indicates that the highest percentage of discourse passages were found in the norm-referenced IOWA test while the lowest percentage of discourse passages were in the criterion-referenced test, with a difference of 49.4%. The HBJ basal series cumulative test showed a respectable 64.5% of its passages to be complete units of communication.

Table 1

Percentage of discourse items on reading tests

Name of Test	Discourse	
	Yes	No
Iowa tests of Basic Skills	86.6	14.4
HBJ Cumulative Test	64.5	35.5
Georgia Criterion-Referenced	36.2	63.8

Since the CRT included mixed item types, items with primary and secondary purposes were analyzed separately from those written for test purposes only. Seventy-one percent of the 69 items on the CRT utilized a passage as text while 29% (20 items) had questions as the only text. The percentage of complete communication units in these two categories differed considerably (see Table 2). When the passage was analyzed as the text, only 24.5% of the items were considered discourse; when the question was the only text, 65% were considered discourse.

Table 2

Discourse as related to type of item on the Georgia CRT

Type of Item	Percentage items on Test	Discourse	
		Yes	No
Passage as text	71.0	24.5	75.5
Question as text	29.0	65.0	35.0

Analysis of the questions accompanying the items (Table 3) indicated that all three tests included some questions which addressed the purpose while less than one percent directly addressed the receiver of the communication. Only the norm-referenced test included any sizeable proportion of questions which referred to the sender.

Table 3

Percentage of Questions Addressing Communication Trinity

Name of test	Number of Questions	Addressed Sender	Addressed Receiver	Addressed Purpose
Iowa Test of Basic Skills	53	22.6	0.0	18.8
HBJ Cumulative Test	91	0.0	0.0	21.9
GA Criterion-Referenced	107	.009	.009	40.2

Narrative, topical exposition, directions and temporal exposition were the most commonly used text structures included in the test passages. While direction and topical exposition sections generally met the conditions for discourse, the narrative and temporal exposition passages were least likely to be coded as complete units of communication.

The arrangement of test items in the *Georgia Criterion-Referenced test* differed from the *Iowa Test of Basic Skills* and from the *HBJ Bookmark Reading Program Cumulative Test.* Within the CRT specific skills questions, including phonemic elements and vocabulary and detail questions about a single sentence, were interspersed among items comprised of longer passages and multiple questions about the passage. For the first two tests, items on the reading sections were generally these longer passages which appeared to be written for a purpose other than the test and then adopted for use as test items.

Conclusions

1.) The Iowa Test of Basic Skills appears to embody the spirit of discourse and a broader definition of reading than the Georgia CRT. The HBJ tests, too, recognize discourse as important in reading passages.

2.) School districts give significant messages to teachers about what is to be taught by the nature of the required tests. The message given by the Georgia CRT is that reading need not be governed by the rules of good communication and that fragmented passages are suitable material for measuring reading comprehension..

3.) The mixture of one sentence items with longer passages on the Georgia CRT may unnecessarily tax the student by requiring frequent shifts in purpose. Sometimes the student must respond to items whose sole purpose is examination, and other times to items with an original purpose other than examination.

4.) For a bulk of the discourse items on the Georgia CRT the sender was the examiner, the receiver was the examinee, and the purpose was to measure a specific competency. Two messages to students and teachers resulted:

a. students should spend a significant portion of their time learning to read and respond as examinees; and

b. subskill study holds an important position, alongside comprehension of meaningful wholes.

5.) If test passages are to complete units of communication, special consideration needs to be given to the completeness of narrative passages used on tests. Longer segments or introductory paragraphs which establish the context of the passage could insure that narrative passages meet the requirements for connected discourse.

6.) Recent research from linguistics and psychology on the nature of text, reading as one form of discourse, and the social-interactive model of reading should be considered by school districts in forming a defensible theory of reading, establishing reading objectives, and developing the tests which measure those objectives.

7.) An over-emphasis on competency-based subskill assessment can result in tests which evaluate behaviors that have little to do with the natural act of reading.

8.) If teachers are to address the real-life requirements of reading in their teaching, assessment procedures which more closely mirror the daily requirements of reading must be considered.

9.) Passages from the *Iowa Test of Basic Skills* appeared to do a better job of mirroring the daily requirements of reading than did the other two tests, although, minimal difference was seen between the ITBS and the HBJ materials.

10.) The ITBS publishers deserve a special citation for inclusion of questions which specifically asked the student to consider the author's point of view. Questions of this type were not noted on the other two tests.

Appendix

The following sample items were written by the researchers based on models taken from the tests.

Sample X — Not Discourse

The Kantz family likes to do many things outside. Ms. Kantz likes to swim. Mr. Kantz and Paul enjoy mountain climbing. Sharon plays soccer. They all like to go hiking together.

What do both children like todo?
(1) play soccer
(2) swim
(3) climb mountains
(4) hike

Sample Y — Discourse

Which word has the same sound as /a/ in about?
(1) candy
(2) pain
(3) bias
(4) boat

Sample Z — Discourse

Directions: Read the following paragraph. Then answer the questions below it.

Thomas Jefferson was the third president of the United States. His work as one of the main writers of the Declaration of Independence is well known. But he had many interests other than politics. He knew Latin, Greek, French, Spanish, and Italian. Jefferson believed that every person, not just the rich, should be able to go to school. He helped establish the University of Virginia. He even drew plans for the buildings and supervised their construction. He was also interested in many areas of science. He collected fossils, tested balloon flights and experimented with different plants and seeds on his farm at Monticello.

What is the topic of this paragraph? Put a check next to the correct answer.
( ) inventions
( ) Jefferson's interests
( ) Jefferson's inventions

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IS THERE A CORE CURRICULUM IN READING EDUCATION? A SENSE OF THE ESSENTIAL

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At reading conferences and in the journals educators share and contribute to, they do not often speak directly of the major part of their business, namely the courses taught in graduate reading education. Much research has been conducted in the public schools as to methodology, materials, assessment, etc., but seldom do educators turn their empiricist eyes inward. Accrediting institutions make educators somewhat accountable for content, state departments hold them responsible for competencies, but how do educators determine the content that is **really** important to teach, with what to teach, and most importantly, how to teach the discipline of reading education?

To investigate these questions the authors hypothesized that the curriculum could be seen through the professors' syllabi, accompanying texts, tests, and readings assigned to graduate students in a beginning reading or foundations of reading course. The authors expected to find similarities and differences and indeed these were found. The surprise came in where these results were found.

Related Thinking

In a discussion of "what (instructors) should teach," Manzo (1984) has raised concerns that are thought-provoking. He calls for delineation of a consciously constructed curriculum for reading education through identification of a core literature that would be nationally accepted by the university faculties of graduate reading education.

> Informal inquiry and personal experiences have revealed that...too little of the literature of the field is presented in typical graduate courses. The identification of a core of articles...would provide professors, state departments, and textbook writers with a greater sense of purpose in citing, teaching and testing knowledge of the studies. (p.90).

Cheek (1983) found that reading foundations courses tended to rank low in reading course value as rated by university reading professors. As a follow-up study, Smith, Fairbanks, and Saltz (1984) constructed a questionnaire to determine content, faculty perception of importance of course components, and instructor satisfaction concerning this particular course. They found that:

1.) the course generally includes a combination of theoretical and skills-related components.

2.) the "reading process" was ranked as most important and the historical process as least inclusive as well as least important components.

3.) the majority of respondents indicated satisfaction with the course as it was presently being offered.

Based on the findings of this study and Manzo's call for a core curriculum, the authors decided to focus on the "foundations" course. The assumption was that graduate programs in reading would typically encompass such a course, and thus it would be of value to identify the common topical and conceptual content of these courses. The question of value aside, however, the first assumption was not substantiated by the findings: graduate programs in reading often do not encompass a foundations course.

Methodology

A questionnaire was sent to fifteen designated peer institutions of the University of Virginia and fifteen designated peer institutions of Old Dominion University. These Peer institutions ratings were previously compiled by the State Council of Higher Education of the Commonwealth of Virginia based on variables such as number of doctoral programs, amount of research monies, FTE's, etc.

Respondents were asked to respond to the following inquiries:

- Institution
- Yearly enrollment
- Modes of delivery (lecture, field work, observations, assigned projects, etc.)
- Objectives for the course (skills, attitudes, information students would be expectd to take from the offering of the course)

Twenty-one of the thirty institutions (70%) did respond; sixteen (76%) of these gave what is termed "full information"; the remaining five (24%) indicated that they had no such course offering. One reason may be for the lack of response from nine of the queried institutions might be explained in part by a lack of the course offering to which our inquiry was directed.

Those sixteen fully responding institutions sent syllabi, tests, hand-outs, etc on which the analysis was based. Content analysis of "manifest" data was conducted: text selection, mode of delivery, objectives and topics, and resources.

Instructional Style

Without exception, lecture was mentioned as the most common form of instruction. It is accurate to say that the foundations course is a lecture course. Respondents did mention occasional interactive demonstrations, classroom application, student presentation, small group work, and assigned reading and discussion of research. Field work was mentioned only three times and media presentations and guest lecturers were noted only once (both the same institution). In sum, the method of instruction in the foundations course today is not particularly innovative. (For example, no one mentioned the computer as an instructional tool.) The model remains one of Socratic interaction of professor and students.

Assignments and Requirements

There was more variety in this category. Library "research" papers are a favorite of university reading educators, but this standard assignment is often supplemented in the foundations course by a variety of tasks and learning activities. Written abstracts, oral presentations, group projects, critiques of research, evaluation of materials, and curriculum and instructional development are frequently assigned. Several creative endeavors include a daily response journal, transcript analysis, media presentations, and utilization of a learning center. Only one professor of this group, however, requires students to evaluate computer assigned instruction. A third of the respondents give students a choice of assignments; three contract for grades. The overall impression is that reading and writing activities are well-integrated in course requirements. It seems, on this view of the condition of foundations courses, that what professors ask students to do in order to learn is somewhat more creative than what professors themselves do in the courses.

Text Selection

Only three texts were mentioned more than once: Lapp and Flood's *Teaching Students to Read*, Harris and Sipay's *Readings on Reading Instruction*, and Richard C. Anderson's *Becoming a Nation of Readers*. (This latter text is usually mentioned as a companion to some other more comprehensive text.)

Other texts included:

Duffy & Roehler, *Improving classroom reading instruction.*

Graves, Writing: *Teacher and children at work.*

Harris & Sipay, *How to increase Reading Ability.*

Heilman, *Phonics in proper perspective.*

Heilman, Blair & Ripley, *Principles and practices of teaching reading.*

Layton, *Psychology of learning to read.*

May, *Reading as communication.*

Parker & Davis, *Developing literacy.*

Robinson & Good, *Becoming an effective reading teacher.*

Smith, *Understanding reading.*

Swaby, *Teaching and learning reading.*

The great variety of textbooks available for use in the foundations course is certainly reflected in this survey. Educators can speculate that the texts available on the market may reflect a common core of foundational knowledge in reading. But, in truth, this speculation is probably more hopeful than realistic. There is no evidence in this survey to support the idea that there is a common core of knowledge to which initiates to the field are being given access. It seems that each foundations course reflects the perspective of its instructor better than it represents "the field" as a whole. The authors are forced to conclude that Manzo's hope for a common base of knowledge of the study of reading is not yet realized.

Course Objectives and Topics

Major finding for course objectives and topics in the Smith, Fairbanks, and Saltz (1983) study included:

1.) A combination of theoretical and skill-related components.

2.) The most frequently included theoretical component was **Reading Process.**

3.) The most often included skills component were **Word Recognition** and **Comprehension** but respondents ranked **Comprehension** (78%) as important.

4.) Ninety-three percent of graduate professors indicated they included **Research**; 70% ranked it as important.

5.) **Historical** was ranked consistently relatively low in both inclusion and importance.

Additional components not included in the study but listed by five or more respondents included Language Development, Comparative Reading Practice, Survey of Reading Approaches and Teaching Strategies, Content Reading, Reading Program Organization, and Reading Material Selection. What is interesting is that with the exception of Content Reading, which probably has its own distinct course offering, the authors found these additional components in almost every syllabi.

The authors' data, in contrast to Smith, et. al. would suggest that the nature of the objectives of beginning reading courses may be changing. Such courses now give little or no time to historical, psychological, physiological, or sociological factors of the reading process. Not one responding institution organized their syllabus according to these topics. Few references were made to physiological research and only two included a "historical" topic.

Objectives fell neatly into major categories. Even though other objectives were present in a scattered way, it does appear there is a core understanding of what students are expected to accomplish in a foundations course today. Representative wording of these objectives include:

1.) To become fully familiar with current research and theory in reading.

2.) To be able to apply new strategies and techniques to classrooms.

3.) To be able to make decisions in classrooms using current research and theory to critically analyze and dispel myths.

4.) To understand his/her own views of reading as well as how one's view of reading affects instruction provided to pupils.

5.) To develop understanding about the nature of language and its related processes and to determine implications of these understandings for reading instruction.

The answer to the question which was posed in initiating this study is "Yes," but the core curriculum lies in a common set of objectives, not in the delivery of these objectives. Thus, at present the curriculum is only partially defined in any particular course offering. How might the objectives above best be accomplished in a foundations experience? How might the actual offerings of a foundations course more closely match the potential implied by a set of commonly shared objectives? Perhaps objective #4 reflects the primary dilemma at the most basic theoretical level. Novices are encouraged to the study reading to identify their own personal framework of their view of instruction and to do this without a common knowledge base. In other words, critical reasoning is asked when no literal or inferential level of knowledge exists. Each student has for study only the professor's and his/her selected research bases for comparison.

A View of the Alternative

University teachers need to recognize their own research based effective teaching practices and to incorporate those "best teaching" practices into graduate reading instruction.

The authors propose the following alternatives to traditional offerings:

1.) Continue the effort to establish a reasonable core of research- to which every student is given access and has a working knowledge (Manzo, 1984).

2.) Establish a network of sharing among professors of the foundation courses, including teleconferencing.

3.) Create a microfiche bank of commonly known and "pivotal" research, to be purchased as "text" by students.

4.) Build a "library" of videotaped demonstrations of teachers applying specific strategies and techniques in a variety of classroom settings.

In addition, the historical antecedents as well as the current explosion of reading and reading-related "essential research" need to be formulated into a core of i.e., those research efforts that shape and mold the direction of reading instruction. It would appear that some of the essentials might fall into the following research categories: cognitive and behaviorist psychology; lexical strategies, metacognition, instructional models, assessment, thinking processes, text structure and text strategies, decision making, technology, and classroom organization and management. A study of this literature might enable us to make thoughtful judgements concerning the content and process of teaching reading. One very astute classroom teacher said to us "The mark of a good teacher is to attend to what is essential and ignore what is peripheral." The authors feel a core curriculum is a move toward determining the essential.

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EFFECTING CHANGE IN ATTITUDE AND CLASSROOM PRACTICE WITH WORD PROCESSING TECHNOLOGY IN THE READING AND WRITING CURRICULUM

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Shavelson and Salomon (1985) emphasize that the processes of reading and writing are strengthened through students interacting, distinguishing meaning and making meaning explicit. The collaborative, cooperative environment of computers and word processing technology provides a vehicle to integrate the two processes of reading and writing. As the two processes become integrated, some research reports significant gains in reading comprehension and writing (Stotsky, 1983; Taylor, 1982).

A specific need exists for inservice training which demonstrates ways to integrate computer technology with reading and writing programs. Many teachers, however, are not currently trained in the use of computer technology nor in ways to integrate the reading and writing curriculums. Compounding these issues is evidence that interactive reading and writing seem to favor a "process" approach, which is founded on the premise of a more student-centered classroom, requires teachers to act as facilitators, conducting collaborative environments which foster continuous and recurring transactions among readers and writers. This can represent a philosophical change which makes implementation even more demanding for the teacher.

Effecting change in attitude and classroom practice with innovative programs is difficult. Institutional constraints of time, space, and money, external pressures to provide instruction which will improve standardized test scores, and mandates of prescribed instructional materials present formidable barriers to the change process. Change, whether institutional or individual, is slow at best. However, careful assessment of the barriers of change, followed by carefully planned steps to remove these barriers might facilitate the change process (Newlove & Hall, 1976; Hord, Rutherford, Huling-Austin & Hall, 1987).

This article focuses on a study which investigated the implementation of an innovative program which integrated word processing technology with a developmental writing program (DWP). Specifically, the article describes the implementation of an innovative program which followed the Concerns-Based Adoption Model (CBAM). Questionnaires, interviews, and observations of classrooms, were utilized to determine implementation of the program and provided the anecdotal and descriptive information which indicated change in attitude and classroom practices.

Theoretical Framework

Current models of reading and writing emphasize that comprehension is an active, cognitive process as readers and writers interact with text-based information, distinguishing meaning and making meaning more explicit. Conventional print – text displayed on the printed page – often restricts the active engagement of reader and writers. The collaborative nature of word processing technologies, however, might facilitate the interactive flow of information between the reader and the text. For example, Daiute (1985) argues that the interactive nature of word processing invites writers to say more and to consider whether the message is clear as students discuss with one another the meaning of sentences or ideas within their texts. Similarly, Newman (1984) suggests that word processing technology facilitates the creation of a natural environment which encourages the exploration and discovery of language in meaningful contexts.

The collaborative, cooperative environment of computers and word processing technology provide a vehicle to integrate the two processes of reading and writing. The word processor and its powerful editing tools provide a natural way for students to explore, experiment, and use oral and written language in an environment which does not separate reading, writing, language, and real life experiences. When students are encouraged to explore meaning in the context of a meaningful situation, word recognition skills, vocabulary development, comprehension skills, and writing skills might be more easily acquired (Ashton-Warner, 1964; Graves, 1975; Roach Van Allen, 1964; Smith, 1982).

The integration of computers with reading and writing programs demands changes in attitudes and classroom practices. Teachers need to be aware of the external pressures, institutional constraints, and instructional materials that influence their attitudes and teaching behavior (Morrow, 1987). Teachers need information about instruction, assistance, and guidance as they adapt and extend an innovative program within the context of their classrooms.

Recent research supports the use of the Concerns-Based Adoption Model (CBAM) in the implementation of innovative programs (Hall & Loucks, 1977; Hord, Rutherford, Huling-Austin, & Hall, 1987). The CBAM, which is client-centered, identifies the needs of individual users and enables the change facilitator to provide assistance through appropriate actions. By minimizing frustrations, the change facilitator maximizes the implementation of the innovative program.

Description of the Study

In order to illustrate implementation of an innovative program, the study will be briefly described. Emphasis will be placed on the treatment program and the formative/summative evaluation procedures employed to ensure implementation of the innovative program.

Sample Description and Design

The sample consisted of 204 fourth and fifth grade students in the Developmental Writing Program (DWP), as well as their teachers who had been trained and who had taught in the DWP for at least one year. A comparison-treatment pretest-posttest design followed. Classes were assigned to a treatment or comparison group using the matching technique.

Treatment Procedures

Consistent with Glatthorn (1981), the implementation of the pilot program began with staff development rather than curriculum improvement. Teachers were provided experiences in use of word processing technology during five days of inservice training, spaced between November 1985 and March 1986, by the researcher. The first two days of inservice training included a description of the nature of word processing, its capabilities, and its terminology, and training in specific skills and techniques in word processing. Prior to the first session the *Stages of Concern Questionnaire* (Hall & Loucks, 1978) was administered to the teachers to identify their concerns about the innovative program. The findings enabled the researcher to help teachers resolve or change their concerns in future training sessions through the use of appropriate materials, information, and procedures.

Following these two days of inservice training, students in the treatment group were trained in word processing skills by the researcher. As teachers participated in this training of students, they were able to extend and develop their newly acquired skills, helping them feel more comfortable with the new technology.

The three remaining training sessions included a review of the specific skills and techniques of word processing, the application of these abilities and skills through the development of activities for the reading and writing programs, and the identification and evaluation of materials and methods for using word processing in the reading and writing programs. To further assist teachers as they applied their newly acquired skills, bimonthly observations were scheduled during the months of January, February, and March.

Observation of eight students The researcher also made observations of eight students, a fourth grade boy and girl and a fifth grade girl and boy from each group as they composed. These observations, which were scheduled monthly for three months (March, April, and May), enabled the researcher to gain participant perspectives which are not always evident to investigators. The rough draft and the final copies of three assigned compositions, which were written during these observations, were retained in order to determine the number and complexity of revision changes made by each of these students

Results of the Study

To determine the extent to which the innovative program was implemented as designed, the researcher examined the behaviors and characteristics of the teachers and students who were involved in the innovative program through the use of observations, interviews, and questionnaires. To determine the effects of the implementation of the innovative program on the outcome measures – reading comprehension, vocabulary development, writing quality, and revision changes – an analysis of variance with repeated measures was performed.

Process Measures

Observations by the teachers The results of informal observations, which included classroom visitations and actual observations of writing lessons, suggested that the six teachers in the treatment group were implementing the use of word processing technology into the writing program. Teachers were actively involved in the adaptation of the innovative program. They identified materials and lessons which could be effectively used with word processors; they created more lessons on computer disks to be used with their classes; and they modified lessons to meet the needs of their students. Figures 1 and 2, which include sample comments made by teachers regarding the benefits and possible modifications of the program, support the possibility that the program was successfully implemented.

Observations of students The results of informal observations of students using word processors indicated that the computer screen seemed to promote peer-interaction during the composing process, particularly during the editing and revising stages. Students were observed working together and sharing their ideas and thoughts as they composed on the computer. Students were observed experimenting with their choices of words and the arrangement of words and sentences as they composed. Using the thesaurus and dictionary seemed to be less burdensome; partners were searching for the correct spelling of words in the dictionary and searching for more interesting words in the thesaurus. The word processors enabled students to make changes quickly and easily.

Figure 1

A sample of Teacher Comments Regarding Benefits of the Program

- Students love writing with word processors
- Students who have poor handwriting and poor coordination love to do their writing assignments on the computer.
- Students who had difficulty with rewriting and revising have increased their ability to edit and revise their compositions due to the ease by which editing and revising is accomplished with word processors.
- Instructors can more easily aid students in the revision process.
- Instructors can evaluate student's compositions more easily.
- Editing is a painless process with the use of word processors.

Figure 2

A Sample of Comments Concerning Suggested Modifications for the Innovative Program

- More computer time in the laboratory is needed in order for good writing program to emerge.
- More computers are needed in the classroom so that the students will have more computer time and will experience the true benefits of word processors in the DWP.
- More printers, which are quick and efficient are needed. Children love to see their work printed up. The neat, clean copy also aids teachers and students in the editing and revising processes.
- There is a need to stress keyboarding skills in early grades so that students can type faster and be more efficient as they use the word processor.
- There is a need to explain typing formats and procedures (i.e., one space after a comma, two spaces after a period, five spaces to indent) at the very beginning.
- There is a need to establish quidelines at each grade level so that instruction can proceed smoothly from one grade to the next.
- Students of lower ability need highly structured lessons in the use of word processors. When step by step instructions are given and followed, fewer mistakes are made and students learn to use word processors more easily and rapidly.

In contrast, peer-interaction was limited to the editing stage for students not using word processors. They appeared more reluctant to consider or discuss different arrangements of words and sentences; their revisions were limited to correcting spelling errors or single choices of words. The handwritten texts seemed to restrict peer-interaction and the manipulation of words and sentences within the text. Many times, moreover, students had to ask their friends to help decipher words which were illegible.

Figure 3 illustrates the feelings of some students about the use of word processing technologies. The comments, which were derived from letters written to school administrators, curriculum supervisors, and software consultants further corroborates the observations and comments of teachers.

Interviews The results of interviews, which were conducted by a consultant trained in the use of LoU interviews, indicated that five teachers were enthusiastic and comfortable with the new program at a Routine Level of Use (Level IVA) and one teacher was at a Refinement Level of Use (Level IVB). Teacher utilization of the program was comfortable and stabilized, with few, if any, changes being made in its current use.

Questionnaires The results of SoC questionnaires indicated that the concerns of all teachers had shifted from personal and task-related concerns to impact-related concerns. At the beginning of the study, concerns of the teachers were at personal and task-related Stages of Concern. They expressed concerns about their lack of knowledge about computers, their ability to learn word processing skills, scheduling computer time in the laboratory, and the lack of time to schedule an additional "subject" within the school day. At the conclusion of the study, the teachers expressed concerns about scheduling additional laboratory time, about refining methods and techniques to use word processing technology so that students might revise and edit more proficiently, and about the continuation of the program for their students during the following school year. All participating teachers were attentive to what changes might be made to increase student per-

Figure 3

A representative sample of comments made by students concerning the benefits of word processing

- "It is very interesting and fun to use."
- "It is a lot easier to read, edit, and type our stories. We can't loose our paper, and we can erase without any mess."
- "I don't have to worry if I write messy or neat. When I write stories, poems, and letters on the computer it saves it on my disk, if I write it in pencil and I want to make copies of it I have to write it over and over again."
- "Instead of having to write reports freehand and getting writer's cramp, you can use the computer and save a lot of time, paper, and not have to scrub away spongy little eraser marks."
- "The printed copies are readable by the teacher."
- "Also I can type better on the computer and while I am typing, my partner can check it."
- "Computers provide faster editing capabilities and increase our interest in the learning process."
- "I think it would encourage us to focus on ;our work. I know when I'm on the computer, nothing distracts me."

formance as concerns progressed to impact-related areas.

Product Measures

Qualitative data on the writing samples suggested that students using word processors improved the quality of their writing significantly more than students not using word processors (F [1,8] = 3.76, p<.08). The findings further revealed that students using word processors improved their vocabulary development significantly more than students not using word processors (F [1,8] = 8.80, p<.02). The findings did not reveal that reading comprehension was significantly different for students using or not using word processors. Finally, quantitative data on the characteristics of revisions indicated that the four students using word processors made significantly more surface changes and meaning changes than the four students not using word processors.

Discussion of Results

The findings of the study support the use of the CBAM. This model appears to promote the development and acquisition of new skills within the context of the specific school, classroom, and expressed concerns of teachers. A series of five inservice programs, which were spaced over the year, seemed to accommodate and resolve the needs and concerns of teachers within the context of their classroom (Hall, 1979; Hall & Loucks, 1977). Teachers were not pushed to change. They were given both time and a secure environment so that they could adapt to the new program at their own speed and at the speed of their students.

The successful implementation of the innovative program appeared to increase student performance. The findings of the study indicated that students using word processors revealed significantly greater gains in vocabulary development and writing quality than students not using word processors. Similarly, the results revealed that four selected students using word processors made significantly more revision changes and more meaning-related changes than four students not using word processors. Although the findings did not indicated significantly greater gains in reading comprehension for students using word processors, reading comprehension is

Table 1

Frequencies of combined revision changes on three final drafts for four subjects using word processors

	Types of Changes				Total Changes
	Surface Changes		Meaning Changes		
	Formal Changes	Meaning-Preserving Changes	Micro-Structure Changes	Macro-Structure Changes	
Grade Five					
Female	30	20	8	36	94
Male	7	18	18	8	51
Combined	37	38	26	44	145
Grade Four					
Female	13	32	9	5	59
Male	25	11	2	0	38
Combined	38	43	11	5	97

Table 2

Frequencies of combined revision changes on three final drafts for four subjects not using word processors

	Types of Changes				Total Changes
	Surface Changes		Meaning Changes		
	Formal Changes	Meaning-Preserving Changes	Micro-Structure Changes	Macro-Structure Changes	
Grade Five					
Female	2	0	1	0	3
Male	13	10	3	0	26
Combined	15	10	4	0	29
Grade Four					
Female	0	0	0	0	0
Male	4	5	2	3	14
Combined	4	5	2	3	14

highly correlated with vocabulary development (Pearson & Johnson, 1978; Johnson, 1986). With continued use of word processing technology, reading comprehension might improve significantly.

The successful implementation of the innovative program might be attributed to researcher observation and participation. As the researcher participated in the implementation of the program and made observations of students and teachers in the program, she was informed about the implementation process and the teachers' approach to it. As the researcher visited classrooms, moreover, she was able to personalize her assistance by helping teachers adapt and extend the content of the training sessions to the context of their classrooms. According to Hord et. al. (1987), the amount of assistance and the personalization of assistance affect movement through the stages of concern and the implementation of an innovative program. They also suggest that more complex innovative programs require more support and assistance in orienting, in managing, and in integrating the use of the innovation. Similarly, Gage (1984) reports that teachers are more likely to adopt new teaching behaviors when there is a great deal of external support.

Implications for Classroom Practice

In summary, the change process, which incorporated computer technologies in reading and writing programs, appeared to be facilitated by several factors. These include:

- Concerns of teachers and possible barriers of change were identified through the use of the Stages of Concern. (SoC) questionnaire.

- The identified concerns of teachers were accommodated and resolved during inservice sessions through the use of demonstrations, materials, and discussions.

- Teachers were given information about the innovative technique and the opportunity to practice the new skills with one another during inservice sessions.

- Inservice sessions were planned over time so that teachers could adapt and extend the practices to fit their unique situations and concerns.

- Teachers were able to observe the instructional process as the researcher trained their students in word processing skills. At the same time, they had the opportunity to refine their skills as they helped students during these training sessions.

- Researchers visitations to the classrooms enabled teachers to receive assistance and guidance as they applied their newly acquired skills in the classroom.

- Researcher visitations enabled the researcher to identify problem areas and to provide guidance in the solution of these problem areas within the context of the specific school and classroom.

- Teachers were given the time and a secure environment so that they could adapt, orient, and manage the innovative program according to their individual schools and classrooms.

- Teachers and the researcher collaborated their efforts in order to construct teaching models which met the social and cultural contexts of the classroom.

- Teachers were able to observe the benefits of the innovative program as they saw their students learn to use word processing technology and improve their skills in reading and writing.

The emergence of significant and meaningful change in this innovative program might also be attributed to the implementation model, the CBAM, which promoted the development and acquisition of new skills within the context of the specific school, classroom, and expressed concerns of teachers. The incorporation of evaluation procedures into new programs from the planning stages onward seems to facilitate the successful implementation of innovative programs and optimize learning outcomes.

There is an increasing need for universities and school districts to cooperate in research endeavors so that instructional strategies can improve learning. Teaching models which meet the social and cultural context of the classroom might be constructed as teachers and researchers collaborate. When training becomes an on-going process, teachers have opportunities to grow and develop new skills which promote student learning.

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THE EFFECTS OF SELECTED WRITING STRATEGIES ON THE SOCIAL STUDIES READING COMPREHENSION OF FOURTH GRADE STUDENTS

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The process of writing continues to gain attention in the study of reading and cognition. Over the past several years professional literature has focused on instructional strategies that incorporate reading, writing, and thinking within the classroom learning environment (Emig, 1977; Goodman & Goodman, 1983; Graves, 1978; Tierney & Pearson, 1983). Support for integrating the skills and processes of reading and writing stems more often from qualitative than quantitative research studies (Clay, 1975; Ferreiro & Teberosky, 1982; Graves, 1975).

The underlying theory of an interactive thought process forms the basis of the relation between reading and writing. Although some theoreticians would quarrel with the choice of terms, Flower and Hayes (1981) view the writing process as an interactive, hierarchical thought process embedded with various levels of understanding, generating, and evaluating. The interactive thought process suggests that writing affords students an active role in their own learning (Applebee, 1984; Emig, 1977; Murray, 1982; Newell, 1984; and Petrosky, 1982). Applebee (1984), Newell (1984), and Petrosky (1982) support the relation between reading and writing and claim that students' textual comprehension is enhanced when students write about their own understanding, manipulate the text by paraphrasing and summarizing, or employ different writing tasks to help them think more effectively about the text.

Specifically in the areas of writing instruction and the comprehension of social studies text, the interaction of reading and writing has been examined by Bromley (1985), Doctorow, Wittrock, and Marks (1978), Newell (1984), and Taylor (1982). Writing strategies that have been investigated include notetaking (Bretzing & Kulhavy, 1979), precise writing (Bromley, 1985), outlining (Todd & Kessler, 1971), and summarizing (Doctorow, et. al., 1978; Taylor, B.M., 1982; Taylor, K.K., 1986). While the Guided Writing Procedure (GWP) and the Student Response Journal (SRJ) have been proposed as writing strategies for comprehending content material (Fulwiler, 1980; Konopak, Martin, & Marin, 1986; Pradl & Mayher, 1985; Smith & Bean, 1980) more study is needed to determine their effectiveness upon reading comprehension (Applebee, 1981).

The GWP is a teacher-directed instructional writing strategy designed to integrate the student's past experiences with textual information. Students brainstorm ideas about a particular topic, write about the topic, verify within the text, and then rewrite as necessary.

The SJR is a structured written record of the student's views, feelings, and understandings of the text elicited according to teacher directions. Items students are asked to respond to include:

1.) In your own words, tell about what you have read.

2.) How do you feel about what you have read?

3.) How is this story like what you already know?

4.) How is this story different from what you already know?

Despite the continuing interest in integrating reading and writing in the content area classroom, studies have shown that writing in the reading classroom serves primarily as a medium through which one can monitor and evaluate what students have already learned (Applebee, 1981; Graves, 1978). If elementary and middle school teachers are to use writing strategies to prepare students to be better readers and writers, then specific writing strategies must be investigated. This study examined two of the often recommended instructional writing strategies, GWP and SRJ, in contrast to the more traditional Text-Restricted Instruction (TRI).

Methods

Subjects

The subjects used in this study were from one average and two above-average social studies classes, with approximately 30 students in each class. From the seven existing fourth grade classes, the principal selected the three classes for participation in the study. The fourth grade classes were ability grouped for the subjects of reading, mathematics, social studies, science, and English. Students were assigned to a particular group according to the score they receive on the reading or mathematics section of the Iowa Tests of Basic Skills (ITBS) administered in the spring of grade three. Those students scoring at the 75th percentile and/or above were placed in an above-average group; students who score between the 30th and 74th percentile were considered average; and scored below the 29th percentile placed students in the below average group.

Eighty-one students (45 females; 36 males) actually completed the study from beginning to end. Due to attrition and missing data, nine of the original 90 subjects were eliminated. In addition, three students were randomly deleted before data analyses to create a design with equal groups. Data analyses were then completed with n = 78. While the classes remained intact, students were randomly assigned to a treatment sequence group. In addition to using the ITBS percentile scores as a covariate, each student was ranked by her/his social studies teacher on a scale from one to four in the areas of writing skill and verbal skill. The writing and verbal skill rankings also served as covariates.

Text Passages

The passages that were used during the study were drawn directly from Scott, Foresman's 1986 *Regions*, a social studies text intended for fourth grade but at the time of the study were not being used by the subjects. This text was selected from a list of the most widely-used social studies texts adopted in the southeastern United States.

Nine passages were selected for use in the study; six passages were utilized during the direct instruction of the GWP, SRJ, and TRI; and three additional passages served as the texts upon which the comprehension measures were constructed and administered. The passages were chosen and judged to be equivalent according to format, style, organization, readability, and vocabulary.

Comprehension Measures

Nine comprehension measures, based upon the social studies text content, were designed by the researcher with the assistance of a panel of experienced teachers, reading specialists, and reading education faculty. Panel members were asked to list ten key ideas from each passage. The ideas listed were then tallied for frequency of occurrence across the panel. The 10 ideas receiving the highest number of tallies were selected as the ideas from which to construct the multiple-choice comprehension items.

The researcher designed 10 multiple-choice comprehension items for each on the nine passages. For each set of 10 items, four items (items 2, 4, 6, 8) were designed to measure a student's inferential comprehension, and six items (items 1, 3, 5, 7, 9, 10) were designed to measure a student's literal comprehension of the passage. With Thorndike and Hagan (1977) as a guide, comprehension items were written with a four-item response. Responses were listed alphabetically, and foils were designed so that one response was fairly obviously incorrect and the other three responses needed closer discrimination. A panel of experienced teachers, reading specialists, and reading education faculty assisted the researcher in determining and designing the literal and inferential test items as well as each item's responses.

In a similar manner, the open ended essay items were chosen for each passage. Panel members determined an overall idea for each passage. In turn, open ended essays were developed and designed to obtain a sample of the student's writing. Of the nine comprehension measures, six were used during the direct instruction and practice sessions. Three comprehension measures were used during the final week of the study and served as the basis from which the research data were collected.

Procedures

Subjects were randomly assigned to one of the three treatment sequences (GWP, SRJ, TRI). The texts were randomly assigned at the beginning of the treatment sequence. In addition, the trained instructor for each treatment sequence was chosen by chance and assigned so as not to instruct the same group of children during the experiment.

Direct instruction in the treatment strategies was conducted for 45 minutes, two days a week, for three weeks prior to the time of data collection. Data were then collected for 45 minutes, three days a week, for one week by a research team consisting of the researcher and two colleagues. One week after the third day of data collection, a delayed comprehension measure was administered.

A mixed-model analysis of covariance (ANCOVA) was used to compare group means in regard to treatment, time of testing, and time and treatment interaction. ANCOVA was used to control statistically any initial differences among the students which may have been present before the treatments were administered (Huck, Cormier, & Bounds, 1974).

Results

Using separate analyses of covariance, data were analyzed for main effects, for time of testing (immediate and delayed) and method of treatment with time and method interaction. Results indicated that method of treatment was not statistically significant at the .05 alpha level for overall comprehension, literal comprehension, inferential comprehension, and essay productions. Relative to the item of testing, at the .05 alpha level, results were statistically significant only for the inferential items. The SRJ was statistically significant on the immediate test of inferential items (See Table 1). For time by method interaction, no statistical significance was evident for overall comprehension, literal comprehension, inferential comprehension, or essay productions.

The results of this study support that no one of the treatments (GWP, SRJ, TRI) is better than the others as an instructional strategy to enhance the overall comprehension of fourth grade social studies text. No one of the instructional strategies showed any significant difference on the overall comprehension items, literal items, or essay

Table 1

F ratios of effects of time, and time by method interaction for dependent variables

Dependent Variable	Time	Method	Time x Method
Overall comprehendion	3.39	.44	.73
Literal comprehension	2.23	.28	.95
Inferential comprehension	50.01*	.03	.02
Essay production	.49	.16	1.44

n = 78
* = significant at the .05 alpha level

items. However, those students in the SRJ group scored significantly higher than the GWP and TRI groups on inferential items for immediate testing (See Table 2).

These findings are similar to the findings of Konopak et. al. (1986) wherein no differences were found on the objective test scores among the three treatment groups. While the Konopak et. al. study showed significant differences for the quality of ideas presented in the written recall test, this researcher's study showed no significant differences on the essay items among the GWP, SRJ, and TRI

Discussion

No one of the methods of treatment (GWP, SRJ, or TRI) was significantly different across the overall, literal, and inferential comprehension measures and the essay productions. The comprehension measures, traditional multiple-choice tests, might not have been sensitive to the methods of treatment. Armento (1986) reported that the most commonly and frequently used social studies teaching strategy is a form of text-restricted instruction. When polled, the classroom teachers at the study site agreed with the position of Armento and stated that the corresponding text-restricted tests were utilized currently and in the past.

Since the students in the GWP group generated their own discussion about a particular topic, key ideas may or may not have been included in the students' thinking. While Noyce and Christie (1983) supported the integration of all the language arts (speaking, listening, reading, writing), if the students fail to generate key text-related ideas, then those strategies that require student input, such as the GWP, might not enhance fourth grade readers' social studies comprehension. Since there were no statistically significant differences among the methods of treatment (GWP, SRJ, TRI) each of the three treatments may do as well as the others in enhancing fourth grade readers' comprehension of social studies text.

Table 2

Summary of means (x) and standard deviation (SD) for inferential comprehension items

Variable	N	X	SD
INFA	78	2.85	0.93
INFB	78	3.06	0.72
INFC	78	2.87	0.89
DINFA	78	0.85	0.32
DINFB	78	0.77	0.36
DINFC	78	0.77	0.36

INFA = Inferential items - GWP
INFB = Inferential items - SJR
INFC = Inferential items - TRI
DINFA = Delayed inferential items - GWP
DINFB = Delayed inferential items - SJR
DINFC = Delayed inferential items - TRI

The GWP, SRJ, and TRI did not exhibit statistically significant differences in relation to the immediate and delayed overall comprehension, literal comprehension, and essay productions. In a comparable study examining two writing strategies and their effects on reading comprehension, Bromley (1985) found no significant differences between the two writing strategies and the students' reading comprehension. Even though the nature of the writing tasks differed in Bromley's and in this current investigation, it would appear that no one particular writing strategy is better than another for improving reading comprehension.

Care was taken to ensure significant statistical power by setting an alpha level of .05 and selecting a sample size large enough to manifest at least medium power (.50). With at least 50% accuracy, it can be stated that according to this study, no one of the treatments (GWP, SRJ, TRI) was better than the others in assisting students in their comprehension of social studies text.

The results of this study show the SRJ to be significantly superior to the GWP and TRI as a means of enhancing fourth grade students' immediate inferential comprehension of social studies text. The present investigation provided no clues as to why there was a significant difference favoring the SRJ over the GWP and TRI in immediate inferential comprehension but not delayed inferential comprehension.

Recently, the SRJ has been proposed as a promising learning strategy for content material (Hoffman, 1983; Moore et. al., 1986; Nist & Diehl, 1985). Linden and Wittrock (1981) state that students process text by becoming actively involved with the text as learners. The SRJ affords students the opportunity to react and respond to the text in a personal way. Perhaps the SRJ is one way to enhance the reader's social studies comprehension. Hoffman (1983) as well as Kirby and Liner (1981), agree that the student journal provides the students with a learning tool to increase their involvement with the text.

Because the sample of subjects was limited to intact classes of fourth graders in one southeastern middle school, generalizations beyond similar subjects would be inappropriate. The brevity of time devoted to developing each writing strategy was a limitation inherent in the study. The text passages and comprehension measures were selected and/or designed specifically for this study, and might have influenced the results of the investigation.

Implications for Classroom Instruction

Over the past several years professional literature has focused on instructional strategies that incorporate reading, writing, and thinking within the classroom (Emig, 1977; Fulwiler, 1986; Goodman & Goodman, 1983; Grave, 1978; Tierney & Pearson, 1983). Many of these strategies are being taught in the teacher education courses and are being used in the classroom in a variety of ways with varying degrees of quality and success. While this study does not propose to be conclusive for any one specific strategy, it appears that before one of these strategies (GWP, SRJ, TRI) can be touted as being more beneficial to learners than another, more investigations are needed.

If, indeed, reading and writing are interactive thought processes (Flower & Hayes, 1981) that involve the student with her or his own learning (Applebee, 1984; Emig, 1977; Fulwiler, 1986; Murray, 1982; Newell, 1984; Petrosky, 1982), then the overall findings of this study are not necessarily consistent with some of the past research. Since each of the treatments (GWP, SRJ, TRI) appears to be successful in aiding reading comprehension, perhaps teacher education classes as well as staff development programs may need to focus on all three instructional strategies with which to equip each teacher.

By trying to examine instructional strategies experimentally, several areas within the framework of classroom instruction were forfeited in this study. While attempting to maintain some kind of ecological validity by using intact classes, actual text passages, and traditional comprehension measures, it was still an experimental study conducted under time constraints. Perhaps classroom teachers may want to utilize a variety of writing strategies over an extended period of time in order to determine the value of specific writing strategies.

Since there were no significant differences among the GWP, SRJ, and TRI in overall and literal comprehension and essay productions, classroom teachers might be encouraged to further investigate writing to learn strategies before endorsing their use in the classroom. Perhaps preservice and inservice teachers could observe and participate in actual classrooms where writing, as well as nonwriting, strategies are used in the core components of the basal content area text(s).

If the SRJ has a superior effect on the students' immediate recall of inferential text material to that of the GWP and TRI, SRJ as a learning strategy warrants further investigation. Students are actively involved in the text by summarizing and personally responding to what was read. While maintaining journals in the classroom is in vogue in today's schools, teachers should be encouraged to examine those journals for both affective and cognitive information and should direct the students to respond in varied ways to different texts.

Some writing and/or learning strategies such as the GWP, SRJ, and TRI may be used with those students who have a preference for a particular strategy. Certain writing strategies may be selected for use according to the learning tasks required by the teacher. Some students may be burdened by the writing process and have more success in learning without utilizing writing strategies. Other students may learn better using writing strategies because they like to write and/or are competent writers.

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THE PROS AND CONS OF USING META-ANALYSIS AS APPLIED TO A SPECIFIC BODY OF RESEARCH

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Meta-analysis is a statistical procedure, devised by Gene Glass (1977), for the purpose of integrating the results of studies on a given topic. It permits the researcher who is trying to integrate the results of a number of studies to do so through the computation of an Effect Size (ES). The formula, in its most basic form, is $ES = Y_E - Y_c$ divided by SD_c. Thus, ES equals the posttest mean of the experimental group minus the posttest mean of the control group divided by the standard deviation of the control group. In essence this resembles a standard score that can be used to compare the results of a number of studies. For example, an ES of .80 would be interpreted to mean that the experimental group had made .80 of a standard deviation more gain than had the control group. In contrast, an ES of -.80 would indicated that the control group had made .80 of a standard deviation more progress than the experimental group.

While Glass' meta-analysis is not the only statistical approach available for the purpose of integrating the results of a body of research, it seems to be the most popular one in education. Before meta-analysis, the scheme most used has been called the "vote method." In this approach, the research integrator usually reports the number or percentage of the studies that found significance in favor of the experimental group, those that found no difference, and those that found a difference in favor of the control group. In a large number of instances the integrative results were inconclusive because the number or percentage of studies finding a difference in favor of the experimental group was balanced by the number or percentage in the other two groups.

There are two major advantages of meta-analysis over the "vote method," and, as the pool of studies being integrated increases, the importance of these advantages increases. First, meta-analysis allows for the maximum use of the statistical data in the individual studies. For example, if one were using the "vote method" in an attempt to integrate twelve studies, six of which found significant results favoring the experimental group and six that found no significant differences, it would be concluded that the experimental procedure seemed not to be any more effective than a control procedure. However, three of the studies exhibiting non-significance did **approach** significance with an alpha level of .07. If ES's were computed, this factor would be reflected in the result, and the integrator would probably conclude that the experimental procedure was significantly better than the control procedure. Thus, data discarded under the "vote method" would be used with the meta-analysis approach.

A second important advantage for meta-analysis is its potential for studying interactions. Going back to the example using the twelve studies, with half the results favoring the experimental procedure and half showing no significant difference, but with three of the six studies resulting in non-significant differences approaching significance, $\underline{p} = .07$. Suppose further, that the researchers wished to examine the relationship of grade level to significance. With the "vote method," the analysis might use the following approach:

Grade level:	2-4	5-7
Significant:	3	3
Non-significant:	3	3

In addition to grade level, the studies might be examined in terms of the length of the treatment. The results of this analysis could be as follows:

Treatment length:	< 6 wks.	> 6 wks.
Significant:	2	4
Non-significant:	4	2

Using the "vote method" one would suspect that treatment length was an important factor and that an interaction between treatment length and grade level was present, but it would not be clear nor would the degree of the relationship be specified.

Using ES's, one might cast the analysis in ANOVA terms as shown in Table 1. Using this method, the integrator has the potential of testing for both the two main effects and for the interaction; namely, whether length of treatment has a differential effect at the two grade levels. A visual inspection of Table 1 suggests that there are no main effects but that an interaction is present. It is true, of course, that with the small **n**'s in the cells, the relationships are not likely to reflect statistical significance.

Although there are advantages in using meta-analysis, there are also problems that have surfaced because of the way it has been used and reported. Two major problems are inherent in the selection of studies to be included in the meta-analysis.

In Glass' original proposals (1976, 1977), he advocated the use of all available studies even though some studies had weaknesses in design, analysis, or measurement. He stated that the "central thesis of research integration" was that "many weak studies can add up to a strong conclusion" (1977). This practice was soon criticized; Eysenck (1978) characterized it as a case of "garbage in-garbage out." Subsequently, Glass modified his stance by recommending that studies be coded on their quality so that interactions between study quality and effect size could be computed (Glass, McGaw, & Smith, 1981). However, Slavin, (1984a) found that most meta-analyses appearing in the literature had not adopted such procedures; they had reported only a single mean ES. He went on to show how poorly designed studies in certain fields of research are characterized by a bias systematically tending in one direction; the inclusion of such studies in a meta-analysis distorted the mean ES reported for the pool of studies. Thus, the selection of studies for a meta-analysis is of vital importance; if all available studies are used, they should be grouped and examined as to quality; few researchers have done this, preferring instead to give all studies equal weight as originally proposed by Glass.

Table 1

Comparison of ES when grade and length of treatment are factors

Grade Level	Length of Treatment				Grade Total	
	> 6 weeks		< 6 weeks			
	M ES	n	M ES	n	M ES	n
2 - 4	.50	3	1.05	3	.775	6
5 - 7	.53	3	.48	3	.505	6
Treatment Length Total	.515	6	.765	6	.64	12

There is a second problem related to study selection. Because individual studies are not discussed in the typical report of a meta-analysis, the reader must assume that all included studies were, in fact, germane to the issue under investigation. That this can be an erroneous assumption was demonstrated by Slavin (1984a). He examined eight published meta-analyses in detail and evaluated them against the original research on which they were based. He found two glaring examples of non-germaneness. The meta-analysis of studies on class size (Glass, Cahen, Smith & Filby, 1982) included tutoring studies (i.e., one-to-one situations). Upon examining a technical appendix to Glass et. al.'s report, Slavin found that the reported strong relationship of class size to pupil achievement was "entirely due to studies of tutoring, not of class size as it is usually understood" (Slavin, 1984a). A second meta-analysis examined by Slavin was done by Johnson, Maruyama, Johnson, Nelson, and Skon (1981) on the relationship of goal structure to school achievement. Slavin found that fewer than 35% of the included studies involved effects on reading, mathematics, science, and other academic subject areas (Slavin, 1984b). Instead, Johnson et. al.'s recommendation that cooperation (as opposed to competition) be used in schools to promote higher student achievement was based on a majority of studies investigating the effect of cooperation on achievement in such areas as golf, bowling, swimming, block stacking, maze solving, card playing, etc. Because Johnson et. all. used all available studies on cooperation and achievement without describing what type of achievement was being measured, their conclusion was misleading to readers who did not examine the individual studies.

In published reports of meta-analyses, there is a tendency to focus on the results, that is, the ES, rather than the basis for those results. Study characteristics that impact on internal and external (including ecological) validity are usually not described or analyzed. It is clear that the problems inherent in study selection (methodological adequacy and germaneness to the issue) would be evident if studies were discussed with regard to pertinent characteristics.

Other information that should be reported is the choice of the formula that was used for computing the ES, the rationale for that choice, and the source for this information became evident when computing ES's for a random sample of 15 sentence-combining studies related to reading achievement. This random sample of 15 studies represented about 50% of a pool that included both published and unpublished reports. A recent study (Neville & Searls, in press), indicated that grade level might be related to the effect of sentence-combining treatment so the researchers stratified the example by elementary, secondary, and college levels.

When computing the ES's for these 15 studies, the choice of formula for computing ES was not as straight forward as initially thought. First, Glass' basic formula (as given earlier) was valid only if it could be assumed that there were no pre-treatment differences between the experimental and control groups. Often pre- and post-differences did occur, requiring the selection of a formula that would take those differences into account. McGaw & Glass (1980) have provided a formula that can be used under these conditions: $(Y_E - Y_C) - (X_E - X_C)$ divided by SD_C.

In this formula, Y=pretest mean, X=posttest mean, E=experimental group, C=control group, and SD=standard deviation of the posttest. Fortunately, the data needed for using this formula were frequently available.

Second, when appropriate posttest-only designs were used in the studies, pretest means were not available. For that situation, McGaw and Glass provide formulas utilizing **t** or **F** ratios and experimental and control group **n**'s. However, it should be noted that using the F ratio formula to compute ES is useful only when two groups are compared.

Third, many of the studies reported the use of ANCOVA to control for pre-treatment differences. If pretest scores were not given, enabling the computation of ES with the gain formula shown above, we tried to use the appropriate formula provided by McGaw and Glass that required, among other values, the correlation between the pre- and posttest scores. However, this correlation was seldom reported. What was reported, when the pre- and postmeasures were standardized tests, were reliability coefficients from the test manual. These coefficients could only be described as approximations of the degree of correlation between the pre- and posttest scores of the subjects in a particular study. When comparing the ES computed from one study's ANCOVA data using a test manual reliability coefficient to approximate pre/posttest correlation, with the ES computed for the same study using mean pre/posttest differences in the gain formula, the ES's were different. How many published meta-analysis had used estimated values in computations and to what extent this affected the ES's that were reported.

Since the choice of a formula may influence the ES, it seems important that the meta-analysis report contain information about which formulas were used, and whether or not values were estimated. In either case, the rationale for choice of formula and method of estimation should be given.

Another interesting discovery made during the application of meta-analytic procedures was that the meaning of a positive or negative ES could differ among studies. The usual meaning of a positive ES is that the experimental group gained more than the control group. However, this is not true for the Fisher (1973) study shown on Table 2, which has a rather large effect size of .559 on the cloze measure. When the pre/posttest means were examined during the computation process, it was found that posttest means for both groups were lower than pretest means for both, but, because the experimental group lost less than the control group, the ES was a positive number. Thus, the positive ES did not mean that Fisher's treatment was advantageous; it meant that his treatment was less detrimental to the experimental group than the control treatment was to the control group!

As for the negative ES, it usually indicates that the experimental group gained less than the control group. On Table 2, there are two negative ES's that do not represent the typical situation. In Straw's study (1978), the negative ES value of -.243 actually means that the experimental group lost while the control group gained. And in Fisher's study, the negative ES of -.078 on the standardized measure really indicates that the experimental group lost more than the control group lost. The fact that the ES can mask such anomalies is enough to make the reader of a meta-analytic report wary of accepting the results unless the author indicates that the positive and negative ES's have the expected meaning.

Table 2

Information on random sample of 15 sentence-combining studies

				Effect size	
	Author	Grade	n	Cloze test	Standard test
Elementary	Fisher, 1973	5	37	.559	-.078
	Mackie, 1982	4	90	.652	.550
	Melvin, 1980	3	160	R[a]	[b]X
	Stedman, 1971	4	298	X	R
	Straw, 1978	4	85	X	-.243
Secondary	Callaghan, 1977	9	146	R	.072
	Combs, 1975	7	100	R	.081
	Hughes, 1975	7	24	-.058	.655
	MacNeill, 1980	9	143	R	X
	Simmons, 181	7	87	R	-.060
	Smart & Ollila, 1978	7	52	R	.104
College	Abdan, 1983	13	46	.149	R
	Armbrecht, 1981	13	42	.070	.059
	Keenan, 1980	13	175	R	-.312
	Morenberg et. al., 1978	13	290	R	.077

R[a] = Measure not used in study.

X[b] = Measure used but data for ES not available

It seems clear that, while there is nothing inherent in meta-analysis that negates its effectiveness in integrating a large body of studies, problems have surfaced as a result of its misuse or of the way it has been reported. Slavin (1984a) has suggested a number of ways that meta-analysis might be improved. Among them are:

1.) Rather than supplant traditional explanatory reviews, meta-analysis should be used as a supplement to them.

2.) Studies should be selected according to a prior criteria related to germaneness and internal/external validity concerns.

3.) Studies with very high or very low effect sizes should be examined for differences in study characteristics that might suggest explanations.

4.) Based on theoretical grounds and/or prior knowledge of a body of studies, subsets of studies should be formed on the basis of study characteristics that may possibly influence effect size (e.g., grade level, criterion instruments, setting, characteristics, etc.).

5.) Interactions of these characteristics can be examined (e.g., grade level with type of criterion instrument).

Because of the authors' experience, they believe Slavin's suggestions would increase the effectiveness of meta-analytic research reviews.

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PRESERVICE AND INSERVICE TEACHERS' READING COMPREHENSION SKILLS AND THEIR METACOGNITIVE AWARENESS OF PROCESSING OF TEXT

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Recent research related to preservice and inservice teachers has focused on perceptions of problems, socialization of teachers, decision-making, and characteristics and personality traits of beginning teachers (Veenman, 1984). Relatively little is known about the actual reading comprehension skills of these preservice and inservice teachers. Most education programs require standardized test scores, such as ACT or SAT, in order to enter the program or to participate in student internships. Many states also have instituted state certification tests. While all of these tests do measure reading comprehension in some way, most measure either literal comprehension through a multiple choice format or inferential comprehension through a CLOZE format. In either case, higher level thinking skills may not be measured. If teachers of reading are to successfully model comprehension processes for children, these teachers should be able to comprehend text at all levels and be aware of their own processing of text.

One of the responsibilities of the teacher educator is that of preparing preservice and inservice teachers to instruct children in reading. The teacher educator must be certain that the teacher-in-training possesses the skills necessary to effectively carry out reading instruction. If preservice and inservice teachers of reading are to successfully model comprehension processes for children, these teachers should be able to comprehend text at all levels. They should also be aware of their own processing of text which Baker and Brown (1980) refer to as metacognitive awareness, an individual's knowledge about his own cognitive resources and the relationship between his capabilities and the demands of the situation or the task. Therefore, the purpose of this investigation was to assess preservice and inservice teachers' comprehension skills and metacognitive awareness of the strategies they use to process text.

Method

Subjects and Procedures

Forty-four college students participated in the study. Twenty-five were graduate students (Group 1) who were enrolled in a graduate reading methods course. This group included students with teaching experience and students without any previous teaching experience. Nineteen were undergraduate students (Group 2) without teaching experience who were enrolled in an undergraduate reading methods course.

The forty-four participants were asked to perform two tasks during the first week of enrollment in a reading course (pretest) and once again during the last week of the course (posttest). For the first task, subjects read a 200-word twelfth-grade level passage (Passage A) taken from an informal reading inventory (Burns & Roe, 1985) and then answered ten questions. The questions consisted of both literal and inferential questions. Additionally, for each of the questions, they were asked to explain in writing how they had determined their answers (metacognitive awareness). For the first task, the passage was removed while the questions were answered.

The second task was similar to the first except that the subjects read a different passage (Passage B) and this time were allowed to refer to the text when answering the questions. This passage was taken from the same informal reading inventory, contained 200 words, and was written on a twelfth-grade level.

Between administration of the pretest and posttest, subjects received instruction on literal and inferential comprehension and how the reader's task differs for each. Instruction took place during two four-hour class periods and was reviewed at midterm.

Scoring

Four scores were obtained for each subject. The number of questions answered correctly yielded a comprehension score, while metacognitive awareness was measured by the types of strategies that each subject reported using as he answered the questions. More specifically, a subject was scored as aware if he indicated the use of explicit text language to answer literal level questions and the use of text in addition to schemata to answer inferential level questions. For example, the answer to the following question was determined differently on the posttest to indicate a change in awareness.

Question:

Was the man in an isolated place?

How answer determined?

Pretest:
"from reading the passage that
people were attracted to him"

Posttest:
"from the story people were walking
around so I inferred he could not be
isolated based on my knowledge
experience of isolate myself [*sic*]"

The pretest response was scored as unaware, and the posttest response was scored as aware. The four scores for each subject, then, consisted of pretest comprehension and awareness scores and posttest comprehension and awareness scores.

The investigators separately scored 25% of the subjects' pretest and posttests and then compared their assignment of scores. Agreement between raters was .92 for comprehension scores and .79 for awareness scores. Resolution of differences led to 1.00 agreement for both comprehension and awareness scores.

Results

Data were analyzed in order to answer the following questions:

1.) Did the subjects increase their comprehension scores on the posttest for Passages A and B?

2.) Did the subjects increase their metacognitive awareness scores on the posttest for Passages A and B?

Gain scores were computed for comprehension and awareness for Passages A and B. Pretest and posttest means and mean gains were also computed. Results of the analysis of gain scores for comprehension are found in Table 1. Results of the analysis of gain scores for metacognitive awareness are found in Table 2.

Group 1 (undergraduate students) showed a significant increase from pretest to posttest for correct responses for Passage A (t=3.76, df=18, p=.01); while Group 2 (graduate students) showed a significant increase for correct responses for Passage B (t=2.08, df=24, p=.05). For the awareness task, there were significant increases from pretest to posttest for Groups 1 and 2 for passage A (t=3.83, df=18, p=.01; t=4.76, df=24, p=.01) and for Group 2 for passage B (t=5.64, df=24, p=.01).

Discussion

Both undergraduate and graduate students appeared to benefit from instruction on how a reader's tasks differ for literal and inferential comprehension. Although the reading methods courses' objectives did not address students' own comprehension skills, perhaps comprehension increased because of the increased awareness of how a reader processes text. Answers to comprehension questions for Passage A required recall rather than reinspection of text as was the case for Passage B. The recall factor may explain why Group 2 did not show an increase on the posttest.

Table 1

Means and Mean Gain Scores For Correct Responses for Passage A and B

		Passage A			Passage B		
Group	N	Pre	Post	Gain	Pre	Post	Gain
1	19	5.05	6.11	1.05**	6.05	6.05	.05
2	25	5.52	5.92	.32	6.60	7.20	.60*

*p<.05

**p<.01

Table 2

Means and Mean Gain Scores For Metacognitive Awareness of Passages A and B

		Passage A			Passage B		
Group	N	Pre	Post	Gain	Pre	Post	Gain
1	19	4.16	6.32	2.16**	4.90	5.68	.789
2	25	4.80	7.60	2.80**	5.08	7.00	1.92**

**p<.01

Of greater interest are the increases in metacognitive awareness for both groups. The lack of a significant increase in awareness for Group 1 on Passage B may be related to the lack of a significant increase in comprehension for that passage, i.e. comprehension may be low because awareness of the reader task is low. On the other hand, Group 2 increased in awareness for Passage A yet did not increase in comprehension. Therefore, it may be possible to be aware of the reader's task but use inappropriate information from either text or schemata or both.

As indicated above, significant gains on both comprehension and awareness indicate that training in comprehension and awareness may be desirable as a component of a reading methods course. A further question then arises. An examination of comprehension means suggests that subjects answered approximately 50% of the questions correctly for Passage A-pretest, 60% for Passage A-Posttest, 60% for Passage B-pretest, and 65% for Passage B-Posttest. These scores are somewhat low for college level students. Reading methods courses usually do not address self-comprehension of students, although course content does include analysis of explicit and implicit level questions. Apparently there exists a need for addressing students' own comprehension and metacognitive awareness. The teacher educator is then faced with the dilemma of determining the reading skills and metacognitive skills of preservice teachers in addition to ensuring that these preservice teachers also know how to teach children to read. Teacher training and inservice programs must be responsive to the needs of preservice and inservice teachers. It is important to know the entry level skills of these teachers, if quality reading programs are to be developed for children. This study provides important information that may be utilized to improve preservice and inservice education programs which emphasize modeling of comprehension as a method for teaching comprehension skills.

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HOME READING BEHAVIOR OF HIGH AND LOW READING ABILITY THIRD- AND FIFTH-GRADE READERS

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The amount of reading that children do in school seems to be associated with reading achievement. Simply put, good readers do more contextual reading than poor readers. Gambrell, Wilson and Gantt (1981), for example, found that good readers were accorded 57% of instructional time for contextual reading while only 22% was allocated for poor readers. Allington (1977; 1980; 1983) has reported that good readers read approximately three times as many words during reading instruction than poor readers. Moreover, 75% of the reading done by the good readers is silent while only 25% of the poor readers' reading is done in that mode. While these data do not imply causation the connection between reading proficiency and the amount of school reading is intriguing.

ading instruction than poor readers. Moreover, 75% of the reading done by the good readers is silent while only 25% of thhildren's success in reading depends to a great extent on the literacy related activities that occur in the home. However despite the fact that promoting out-of-school reading is a common and important goal of the school reading curriculum, evidence to the extent to which this goal is obtained is lacking (Greaney, 1980).

Greaney (1980) points out that there are few studies that have focused on children's leisure or home reading. In a series of landmark studies, for example, Durkin (1966) found that children who were already readers prior to beginning school came from homes in which literacy was encouraged. One activity that was consistently found in the homes of early readers was reading. These children came from homes in which family members read and in which the children were read to on a regular basis.

Several studies have found significant relationships between the amount of students' out-of-school reading and their level of reading proficiency (Connor, 1954; Greaney, 1980; Long & Henderson, 1973; Whitehead, Capey & Maddren, 1975; Wilson, 1984). In an early study Connor (1954), for example, found that good readers read more and higher quality reading materials than poor readers. Greaney (1980) had primary students in Ireland keep a diary of their after-school activities for three days. He found a .31 correlation between amount of book reading done and student reading achievement. On average the students spent 5.4% of their available time (less than 4 minutes per hour) in reading activities. Wilson (1984) reported a .4 correlation between after-school reading and reading achievement for American students.

The present study was an attempt to verify and extend the limited research conducted to date on children's home reading. The study attempted to determine if differences exist in the frequency and amount of time devoted to reading at home by the self report of high and low performing elementary grade readers. The study is significant in that it will add evidence in this area that Greaney has argued lacks empirical data. Moreover, the data collection procedures are somewhat different than recent work in that students were asked directly to gauge their reading activities at home. Thus, the present study is an attempt to confirm earlier work on home reading behavior using a methodological approach which is unlike that used in previous studies.

Method

Twenty-six third-and forty fifth-grade students participated in the study. The students came from two elementary school, representing both high and low SES neighborhoods. Both black and white students participated in the study. The students were equally divided into high and low ability reading groups. Ability group placement was based upon students' performance on the appropriate level of the Gates-MacGintie Reading Test. Those students scoring above the fifth stanine were identified as high-ability readers. Those scoring below the fifth stanine were designated as low-ability readers.

Each student in the third-grade sample was asked to rate how often he or she read at home. Student could choose one of three responses: almost every day, two or three times a week, or hardly ever.

Each fifth-grade student was asked two questions. The first asked the student to rate how often he or she reads at home. For the fifth-graders four response choices were provided: almost every day, four or five times a week, two or three times a week, and hardly ever. The fifth-grade students were also asked to estimate the number of minutes spent reading at one time. The response choices here were ten minutes or less, between ten and thirty, and more than thirty.

Each student was interviewed individually by the same interviewer. Prior to asking the critical questions the interviewer had each student read a brief narrative passage, answer a set of related questions, and engage in conversation. A reasonable sense of rapport was developed with each student. In addition to having a written copy of the question and possible responses, the interviewer read each question and response to the student and clarified any questions or points of confusion. Originally, the third-graders were also asked to respond to a question about the amount of time spent reading at one time. However, it became apparent that their understanding of small units of time was not sufficient to provide accurate data on this behavior.

Results and Discussion

Chi-square analyses were performed on the data. The data is summarized in Tables 1 through 3. A significant difference between high and low ability students in frequency of home reading was found for both third-grade (chi sq (2)=7.79, p=.02) and fifth-grade (chi sq (3)+12.34, p=.006) students. Greater lengths of time spent reading at any one time at home tended to favor the high ability fifth-grade students, though not significantly (chi sq (2)-3.37, p=.18). These results suggest that high ability readers, at both third- and fifth-grades do indeed engage in reading activities more often at home than low ability readers. Moreover, when they do read at home low ability fifth-grade readers may spend less time reading than their high-ability classmates.

Table 1

Frequency of Reading at Home for Third-grade Students

	Almost Daily		2-3 Times per Week		Hardly Ever	
	N	%	N	%	N	%
High Ability	9	69.2	3	23.1	1	7.7
Low Ability	2	15.4	9	69.2	2	15.4

chi sq (2)=7.788 p=.0202

Table 2

Frequency of Reading at Home for Fifth-grade Students

	Almsot Daily		4-5 Times per Week		2-3 Times per Week		Hardly Ever	
	N	%	N	%	N	%	N	%
High Ability	14	70	2	10	2	10	2	10
Low Ability	4	20	1	5	9	45	6	30

chi sq (3)=12.343 p=.006

The results of this study tend to confirm earlier work in this area. Although the results do not prove that one reason good readers are indeed good readers is that they read extensively at home, a connection between the two is apparent. Moreover, if one accepts the notion that the amount of practice a person gets in a particular skill or activity (Laberge & Samuels, 1973; Samuels, 1979) then it would seem likely that practice in reading at home is crucial to reading success. And, low ability readers practice reading less often at home than high ability readers.

Schools need to encourage children to do voluntary recreational reading outside of school. Schools, however, may be part of the present problem. Morrow (1985) and Lamme (1976), for example, argue that low levels of voluntary reading may be due to the fact that most school reading instruction is oriented to skill building and preparation for standardized tests with little overt reading for enjoyment. Indeed, Allington (1983) has reported that poor readers tend to get larger doses of skills instruction than good readers whose instruction is more typified by contextual reading.

Morrow and Weinstein (1986) have demonstrated that schools can successfully encourage voluntary reading. A school-based program in which 20 minutes per day were devoted to promoting voluntary reading through literature enrichment and a home-based program in which parents were trained to read to and do other literacy related activities with their children resulted in

Table 3

Length of Time Spent Reading at Home at One Time for Fifth-grade Students

	More than 30 Minutes		10-30 Minutes		10 Minutes or Less	
	N	%	N	%	N	%
High Ability	12	60	7	35	1	5
Low Ability	7	35	9	45	4	20

chi sq (2)=3.366 p=.1844

significant increases in second-graders' voluntary reading in school. These results, however, did not appear to transfer to reading in the home. Similarly, Greaney (1970) found that systematic school-based efforts to foster leisure reading were successful with primary grade students. However, many of these successes, in terms of time devoted to reading, had disappeared within six years (Greaney & Clarke, 1975).

The literature is replete with other suggestions for promoting home reading and related activities in the home. Spiegel (1981), for example, offers suggestions for schools to encourage parental involvement in a recreational reading program at home. Whether such activities actually promote leisure reading and reading achievement has yet to be fully demonstrated. Regardless, such activities seem to be fully worth the effort and should continue to be implemented and evaluated.

To conclude, in a recent review of parental factors impacting on reading Greaney (1986) points to the combined influences of home and school in making reading successful and pleasurable as the key to improving the child's reading ability and willingness to read:

> Parents have an important contribution to make, both to the development of reading skills and encouraging the leisure reading habit. This they can do by introducing the child to the printed word, by creating an environment which helps to foster reading by providing opportunity, space, materials, encouragement, and example...
>
> It is the task of parents and the school to help make encounters with print satisfying and pleasurable, thereby introducing the young person to a new world of adventure and ideas which can both illuminate and change his or her future life.(p. 817)

Reading educators and researchers need to continue to design and promote home reading activities and evaluate the extent to which those activities achieve their intended outcomes.

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USING THE COGNITIVE/LEARNING STYLES LITERATURE IN THE TEACHING OF READING: A PERSONAL PERSPECTIVE

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One of the most frustrating challenges we face as educators at all levels is organizing effective personalized instructional strategies and environments which allow each of our unique students to learn, explore and develop. Unfortunately, for many professional educators, the futile search for that one "correct" or "best" set of materials or approach which will bring "true happiness" to *all* teachers and students still continues. Many parents, special interest groups, local and national politicians, school administrators, school board members at state and local levels as well as educational professionals with special interests in specific programs or materials are constantly pushing for this search to end immediately because they have found "the answer." The practical demands of working daily with groups of students in structured school settings and programs often seems to interfere with our personalized and focused planning for individual students and how they learn and can best be taught. In recent years, the learning/teaching styles research have evolved as a "new movement" which proponents feel can help solve this professional dilemma, even as it relates to reading education.

The purpose of this article is to offer a brief personal perspective on the value of the learning/cognitive and teaching styles literature and the reading education programs which it has spawned. Having followed closely the evolution of this field for over 17 years, I have made some observations which may be useful to others as they explore and begin to apply this literature in the classroom.

Definitions of learning styles vary almost as much as those related to dyslexia. One must explore a bit to be sure to understand what the user means by the term. Gregorc (1979) defines learning style as follows:

> Learning style consists of distinctive behaviors which serve as indicators of how a person learns from and adapts to his environment. It also give clues to how a person's mind operates ...(and also) every environment places demands upon individuals for adaptations...some people's minds operate best in concrete situations, others in abstract, and some in both. Some individuals have an ordering preference that is sequential, while others demonstrate non-sequential patterned preferences. Some use both. Some people process best through deduction, while others use forms of induction. And again, others use both. Some individuals function best on their own, while others are most productive through group activity. Some do equally well in either situation...the mind must also deal with such environmental factors as room temperature, humidity, noise level, and the student's age and state of physical and emotional development (p. 234).

Much of the current learning styles literature has built upon the research and original constructs developed by Witkin (Oltman, Raskin & Witkin, 1971; Witkin, Moore, Goodenough & Cox, 1977) in his work with field dependence vs. field independence (sometimes referred to as global vs. analytical. Kagan (1965) as he dealt with reflectivity vs. impulsivity (sometimes referred to as conceptual tempo), and those researchers and educators too numerous to mention who have indicated the importance of learning modality preferences when planning instructional strategies.

Other important researchers and conceptualizers of the growing field of learning/teaching styles are Gregorc (1979, 1982, 1984, 1985a, 1985b) and Kilb (1985). McCarthy (1981, 1985), McCarthy & Leflar (1983), and Samples, Hammond, & McCarthy (1985) developed McCarthy's conception of the *4MAT* instructional program from the work of these and other contributors in this evolving research literature. Most recently, Keefe (1982,1987) and Keefe & Monk (1986) have developed a broad-based diagnostic instrument, the Learning Styles Profile, which samples from and evolves beyond the learning styles constructs of many of the major past and current researchers and program developers in the field. Another professional strand under development, based on the work of Jung, is being coordinated by Hanson & Silver (1986). Two publications devoted to updated research and trends related to learning/teaching styles are: *Learning Styles Network Newsletter* (Dunn, 1986a) and *The Clearinghouse Bulletin: Learning/Teaching Styles and Brain Research* (Wedlund, 1985).

Most relevant to our present discussion is the work of Dunn and Dunn (1987), Dunn (1984, 1986a, 1986b, 1987) and Dunn, Dunn & Price (1981, 1987) who have organized their conceptual model around some 21 variables or style preferences which deal with environmental, emotional, sociological, physical and psychological factors. Their theoretical framework and resulting suggested testing and teaching procedures are probably the most widely used at this time. This is relevant to reading educators because the work of Marie Carbo (1980, 1982, 1983a, 1984a-f, 1987a-d), the most prolific and currently visible of those applying learning/teaching styles literature to reading education, evolved from work with the Dunns. Her *Reading Styles Inventory* (Carbo, 1982) is being sampled and/or used more and more by teachers around the country as is her book (Carbo, Dunn & Dunn, 1986).

As seasoned skeptics, many educators get concerned about "bandwagons" which get up a head of steam and rumble along for a while. Is there substance beyond the many initial educationally seductive elements of the tests, strategies and organizational aspects suggested in the current learning/teaching styles literature? There are several issues raised by this question.

First, are the diagnostic instruments, which must be relied on so heavily to make instructional decisions and suggestions, both valid and reliable? Curry (1987) provides evidence that raises doubts with some instruments and supports others. Data provided by those authors producing the various tests, checklists and related materials vary. My general impression is that in recent years more rigor has been applied on text construction and psychometric support and that additional research will be conducted with instruments in use which will probably strengthen and support original validity and reliability claims. Of interest here is the recent Caldwell (1987) review of the *Reading Style Inventory* (Carbo, 1982) and the variety of reactions elicited.

Second, an issue related to validity deserves comment here. Some educators try to compare style constructs from one theorist with that of another and it simply doesn't work. How one conceives of and perceives the concept of learning or processing styles only comes from ones unique experiential background. That there is only one "correct" dimension or measurable set of constructs in all "learning styles" concepts makes no sense because of the backgrounds of the developing theorists and educators. Therefore, it should come as no surprise that when the learning styles inventories of Kolb, Dunn and others were compared through a factor analysis study, some evidence of construct validity within and between some instruments could be found but it was apparent that instruments were measuring different things (Ferrell, 1983).

A third issue involves the ever present problems plaguing all test interpretation—labelling. "Johnny is an auditory learner, therefore he needs this or that from the prescription print out to learn to read." We know this prescription-label simply is not etched in stone; yet the way in which some teachers may use the data may encourage the inappropriate labelling of individual students. Each student is unique! Not all "eagles", "bluebirds," or "buzzards" need the same teaching approach and materials, yet, in the past, that's what they may have received. Use of specific learning style preferences or characteristics may change and/or evolve over time and are often situation specific. Therefore, most students style-flex, or use certain strong learning style preferences with some tasks or situations but use other less or equally strong style preferences in other situations to get the job done. A one-shot diagnostic instrument assessing styles may not create enough variety of situations which might call on the ability of a given student to use a repertoire of style preferences.

A fourth issue relates to the use of computerized learning style data in a rigid prescriptive way with reading students. The specific instructional options a teacher might be given are limited to those in the current computer program. "Whole language" or some of the recent strategies and techniques a teacher might want to try may not be suggested. Obviously, a learning style prescription must not be taken literally and sound professional judgment should be applied by the teacher. A thorough and on-going inservice plan must be in place for schools exploring and adopting learning style programs.

A fifth issue concerns the procedures for scoring and interpretation of data. While computer disks are available for scoring some learning style inventories, none exist for others. Therefore, a teacher must send off data and, for a fee, get back several weeks later printouts describing individuals, groups or whole school classes. The teacher may not be able to self-score the data, therefore costs can be a factor. It makes perfectly good sense to ensure more reliability in scoring and to ensure credibility in the evaluation process, but for individual teachers completing part of a diagnostic workup which includes a learning styles assessment, this can be a frustration.

Finally, I am cautiously optimistic about the role of learning styles instruments and conceptual frameworks in the schools. They can be helpful, if used with sound professional judgment, with students exploring their own best ways of learning and developing study skills and habits at home and at school. They can be used to disspell fears among students and teachers about there being only one right way to learn or teach and that they must change to match that style. A teacher using learning styles data as part of a personalized instructional plan for a student may find a different perspective being added by that data analysis. As reading educators and researchers we may also find some interesting dimensions being added to our work with the interactive nature of the reading process through our study of the conceptual schemes and theoretical frameworks proposed by learning styles proponents.

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PROSPECTIVE TEACHERS' RECOLLECTIONS OF HIGH SCHOOL CONTENT AREA INSTRUCTION

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The difficulty in reconciling recommended and actual content reading instruction has been a persistent dilemma. Many researchers (Ratekin, Simpson, Alvermann, & Dishner, 1985; Gehrke, Schaefer, & Schlick, 1982; Smith & Feathers, 1983; Rieck, 1977) have identified a wide disparity between the recommendations in content area reading textbooks (and classes) and the actual teaching practices used in content area classrooms. Suggestions make by reading authorities are often ignored or overshadowed by other considerations. The issue presented by this disparity is an important one: Why are content teachers seemingly reluctant to change their instructional practices? a number of possible answers have been suggested;

(a) teachers don't see the need for content area reading instruction
(b) the recommended activities are too time consuming
(c) the recommended activities fail to take into consideration the realities of the classroom.

Some researchers (Ratekin, et al.; Patberg, Dewitz, & Henning, 1984) have suggested ways of addressing these concerns, particularly the concerns of practicing teachers. To a large measure, these suggestions depend on the teacher trainers' recognition of and sensitivity to the realities of the classroom.

With prospective teachers, though, the concerns may be different. While at first it seems that prospective teachers may be more willing to accept the recommendations offered in content area reading classes and texts because they aren't constrained by the realities of the classroom, prospective teachers have their own sets of expectations about classrooms. Their expectations, however, are based on their experiences as students. The old adage, you teach as you were taught, may be more than just an expression when referring to prospective teachers.

This study is an examination of content area reading instruction from the perspective of the prospective teacher. As such the study has two major objectives. First, the study is intended to give a picture of the current state of content reading instruction. By using recollections of prospective teachers, information can be obtained that is not found in teachers' recollections or even in observations of classrooms. Although these recollections are subjective, the perceptions they reveal are likely to influence the prospective teachers' attitude toward content area reading and their use of recommended strategies. Second, the study is intended to help identify the relationships between and among prospective teachers' recollections of content area instruction, attitudes toward content area reading, and understanding of the reading process.

Methods

The study was done in two parts. In part one, students enrolled in undergraduate educational psychology courses at two midwestern universities were surveyed. Students in educational psychology courses were chosen because they had expressed interest in teaching, would soon be student teaching, but had not yet taken a content reading course. These students were expected to be aware of and interested in teaching, but relatively unaware of content reading strategies. Consequently, their recollections were expected to be accurate reflections of their perceptions without the potential biasing influence of content reading instruction.

In part two, students enrolled in content reading methods classes (approximately one-half way through the course) were also surveyed. These students were chosen for comparison because of their exposure to content reading methods instruction.

Students were surveyed as to their recollections of their high school content area instruction. The survey consists of three parts (See attached). The first part was designed to reflect the three categories used by Ratekin, et al. (A-Organizational settings and instructional methods, B-Inferred purpose setting, C-Instructional resources). This portion of the instrument was developed by first compiling a list of statements about teaching practices to reflect the categories described by Ratekin, et al. This list was then categorized by the two authors and two other professors of reading education. Items that were unclear or not clearly classifiable were either rejected or revised. In the final survey 22 items were used (seven involving organizational settings and instructional methods, six related to inferred purpose setting, nine focusing on instructional resources). The catagories and abbreviated related statements are shown in Table 1. Students responded to each item by indicating the extent to which their teachers used specific strategies (using a five point scale from *always* to *never*).

The second portion of the survey consists of 15 multiple choice items measuring perceptions about the reading process, as a measure of students' knowledge about content reading. These items were taken from a test of teachers' knowledge (Telfer, 1984). From the 50 items in the test of teachers' knowledge, 15 items were selected. The two authors selected the items based on two criteria: whether the items reflected content reading instruction and whether the items represented the five categories used by Telfer (knowledge of reading, knowledge of materials, knowledge of readers, teaching practices, and application of teaching practices).

The third portion of the survey consists of the 15 item Vaughan Attitude Scale, measuring attitudes toward content reading instruction (Estes & Vaughan, 1985). On this portion of the survey students responded on a seven-point scale (*strongly agree to strongly disagree*).

Table 1

Recollection statements categorized

Organizational Settings & Instructional Methods	Inferred Purpose Setting	Instructional Resources
1- Lectured to entire class	6- Previewed concepts	12- Used one text
2- Monitored activities	7- Presented a purpose	13- Used printed in addition
3- Worked with small groups	8- Present important concepts	14- Used more than one text
4- Worked individually with	9- Clarifying concepts	15- Outside class reading
5- Discussions with entire class	10- Evaluated understanding	16- Reading during class
19- Large and small group	11- Provided feedback	17- Used study guides
22- More capable help less capable		18- Higher level
		20- Reading in preparation
		21- Used adjunct aids

Data Analysis

For part one of the study educational psychology students' responses to individual items and groups of items were tabulated. Then, mean scores for each item and group of items were calculated. Students' responses were examined in the catagories suggested by Ratekin, et al. Average knowledge scores were computed, as were average attitude scores. In addition, attitudes towards content area reading were correlated with perceptions about reading. Finally, the recollections of students with high (or positive) and low (or negative) attitudes scores were compared, as were the recollections of students with high and low knowledge scores.

For part two, the responses of students in educational psychology courses and the responses of students in content reading courses were compared. These responses were compared with respect to recollections, knowledge, and attitudes.

Results

It was expected that students' recollections of content area instruction would show little use of strategies recommended in content reading methods textbooks. Students' attitudes toward content area reading were also expected to be highly correlated with their recollections of content area instruction.

Part One

Student recollections. Student recollections varied considerably, but averaged 3.19 overall (indicating that they remembered the practices being used slightly more often than not). Within Category A-Organizational Settings and Instructional Methods (See Table 2), the mean score was 3.29 with the highest scores on lecture (#1), monitoring (#2), and whole group instruction (#5). The lowest scores were on small group work (#3) and peer tutoring (#22).

Within Category B-Inferred Purpose Setting (See Table 3), the mean score was 332, with the highest scores on presentation (#8), clarification (#9), and evaluation (#10). The lowest scores were on purpose setting (#7).

Within Category C-Instructional Resources (See Table 4), the mean score was 3.01, with high scores on use of one textbook (#12) and use of supplementary materials (#13). Low scores were seen on use of more than one textbook (#14), outside of class reading (#15), reading during class (#16), and reading as preparation (#16). Other scores were relatively close to the overall mean.

Knowledge of content area reading. Students received an average score of 7.00 on the 15 point test of content area reading knowledge.

Table 2

Mean scores in category A Organizational settings and instructional methods

Statement	Mean Score
1- Lectured to entire class	3.85
2- Monitored activities	3.51
3- Worked with small groups	2.75
4- Worked individually with	3.26
5- Discussisons with entire class	3.92
19- Large and small group	3.08
22- More capable help less capable	2.66

Table 3

Mean scores in category B Inferred purpose setting

Statement	Mean Score
6- Previewed concepts	3.15
7- Presented a purpose	2.76
8- Presented important concepts	3.57
9- Clarifying concepts	3.62
10- Evaluated understanding	3.66
11- Provided feedback	3.33

Scores within the subtests were Subtest A-Knowledge of Reading (1.30), Subtest B-Knowledge of materials (1.60), Subtest C-Knowledge of Readers (1.40), Subtest D-Teaching Practices (.90), and Subtest E-Application of Teaching Practices (1.80).

Attitudes toward Content Area Reading. The average attitude score (See Table 5) Was 4.64 on a scale of 1-7 with 4.00 being the mean (higher scores indicated more positive attitudes towards content area reading). Particularly high attitude scores (means of >5.00) were seen on questions 1 (content teacher's obligation), 2 (technical vocabulary), 7 (English teachers), 8 (showing teacher's love of reading), 10 (higher level thinking), 12 (setting purposes) and 15 (theoretical concepts). The lowest scores (means of < 4.00) were seen on questions 3 (primary responsibility) and 11 (greater responsibility).

Table 4

Mean scores in category C instructional resources

Statements	Mean Scores
12- Used one textbook	4.07
13- Used printed in addition	3.42
14- Used more than one text	2.39
15- Outside of class reading	2.78
16- Reading during class	2.69
17- Used study guides	2.85
18- Higher level	3.06
20- Reading as preparation	2.73
21- Used adjunct aids	3.08

Table 5

Average attitude scores

Statements	Mean Scores
1- Content teacher is obliged to help with reading	5.07
2- Technical vocabulary shoudl be introduced	5.41
3- Primary responsibility...subject matter	3.18
4- Few learn all in first six years of shcool	4.61
5- Sole responsibility...reading teachers	4.88
6- coursework (CAR) should be required	4.69
7- Only English teachers should be responsibile	5.16
8- Teachers should show that they like to read	5.15
9- Content teachers should teach content and let...	4.75
10- Content teacher...interpretive as well as	5.33
11- Content teachers..greater responsibility to content	3.84
12- Content teachers help students learn to set purposes	5.33
13- Every content teacher should teach how to read in that subject	4.69
14- Reading instruction in secondary schools would be unnecessary if...	4.74
15- Content area teachers should be familiar with theoretical aspects	5.45

(Note: Scores reflect degrees of agreement with positive statements and degrees of disagreement with negative statements.)

Correlations. Correlations between attitudes and recollections were small (.10 for the total, .12 for part A, .02 for part B, and .10 for part C). Correlations between attitudes and knowledge were also low (.06).

High and low attitude students compared. The attitude scores were first divided into five categories as suggested by Estes and Vaughan (91 or higher, 81-90, 71-80, 61-70, 60 or lower). Then the two high catagories were combined as were the two low categories. The resulting high and low groups were then compared. High and low attitude students were found to be very similar in their recollections in Category A, only whole group discussion showed a significant difference, with low attitude students recalling it more often. In Category B, low attitude students saw their teachers presenting the concepts more than did high attitude students. In Category C, low attitude students recalled their teachers using one textbook significantly more often.

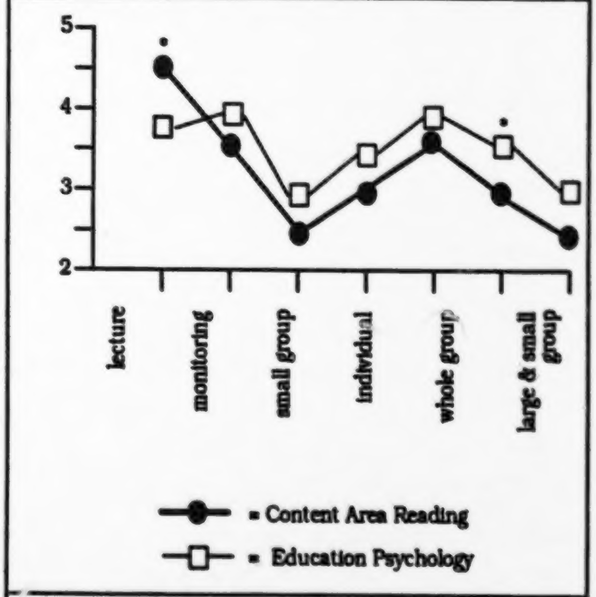
High and low knowledge students compared. On all three sections, high (≥10) and low (≤5) knowledge students showed no significant differences in their recollections.

Part Two

Educational psychology and Content Area Reading Compared.. In a second phase of the study, the survey was administered to students in content reading (CAR) courses. The scores for these students were compared with the scores for students in the educational psychology (EP) classes. Overall, the content reading students' recollections in Categories B and C differed significantly from those of the educational psychology students. In Category A (See Figure 1), significant differences were seen in recollections of lecture (CAR higher) and large and small groups (EP higher). In Category B (See Figure 2), differences were seen on previewing, purpose setting, presentation, and clarification, all with less use recollected by the CAR students. In Category C (See Figure 3), differences were seen in use of study guides, use of higher level questions, and use of adjunct aids, all with less use recollected by the CAR students.

Figure 1

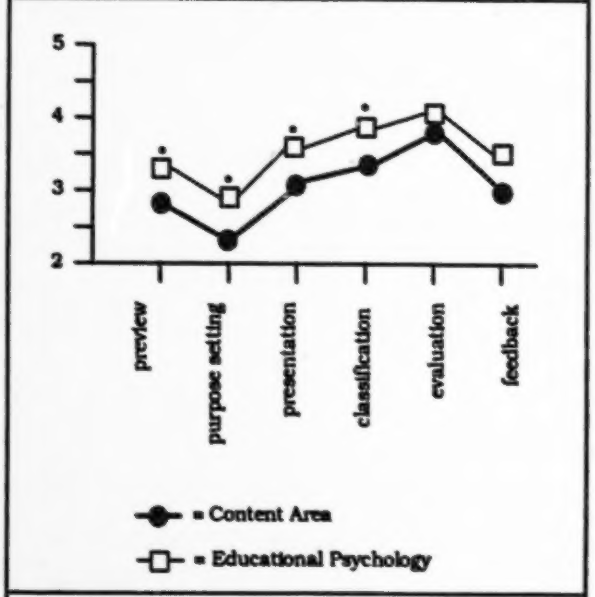
Comparison of recollections of educational psychology and content area reading students Category A



* p< .05

Figure 2

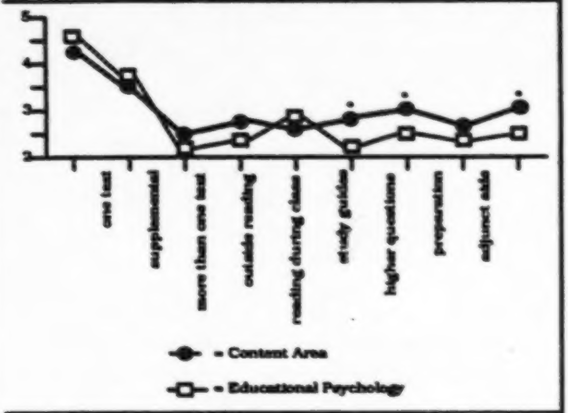
Comparison of recollections of educational psychology and content area reading students Category B



* p< .05

Figure 3

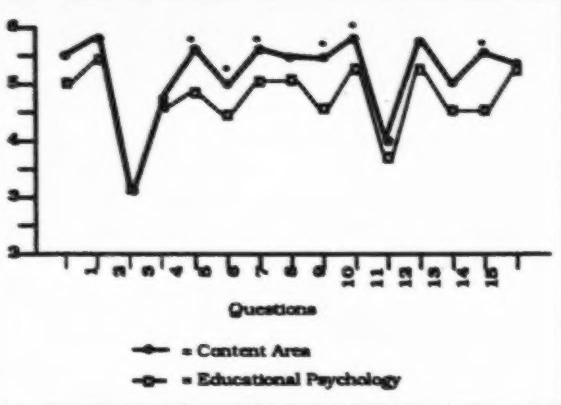
Comparison of recollection of educational psychology and content area reading students
Category C



* p< .05

Figure 4

Comparison of recollection of educational psychology and content area reading students' attitudes



* p< .05

Content area reading students and educational psychology students also differed on attitude scores (See Figure 4). Overall CAR students' attitude scores were significantly higher than EP students. Significantly higher scores were found on six of the individual questions, 5 (responsibility), 6 (required coursework), 7 (English teacher), 9 (left to reading teacher), 10 (higher level thinking), and 14 (instruction necessary).

Knowledge scores were also significantly higher for CAR students. The mean score for the content reading students was 9.7 as compared to the educational psychology students' 7.0.

Discussion

Initially, this study began as an attempt to give a picture of the current state of content reading instruction. The picture that comes through the recollections of prospective secondary school teacher is one that emphasizes a traditional approach. According to this picture teachers are more likely to work with large groups than with small groups. Teachers are less likely to help students identify a purpose or to preview concepts than to present information, clarify concepts, or evaluate students' understanding. Teachers apparently regularly use one textbook, often with supplementary printed materials, but less frequently use study guides and other adjunct aids or require students to develop concepts through reading outside the class. In short, the picture appears to be as many researchers have indicated, the strategies recommended in content reading methods courses don't seem to appear in classrooms.

Viewed from another perspective, though, a slightly different picture appears. If students who have taken most of a course in content reading are compared with students who have not, an interesting difference can be seen. The recollections of the content reading students tend to be more negative regarding their high school instruction, at least from the perspective of the method course instructor. That is, the content reading students tend to remember their teachers using traditional approaches more frequently and using recommended content reading strategies less frequently than do the students without content reading. A possible explanation for this difference in recollection is that content reading courses sensitize the students to teaching strategies, or cause them to examine instructional practices more closely.

This study also began with the expectation that attitudes toward content area reading would be highly correlated with recollections. The results, though, do not suggest any close connection. In fact, the correlations are all small. Of interest, however, is that for educational psychology students most of the higher correlations (+.15 and above) were on items related to traditional activities. For content reading students, these correlations tended to remain small but become negative. This shift may suggest that one of the changes that occurs in content reading methods courses is in sensitization to the strategies that are used in classrooms.

Other correlations were also insignificant, both between attitudes toward content reading and content reading knowledge and between recollections and content reading knowledge. Apparently the connections between these variables are not especially strong. Instead, what was found was that content reading students and educational psychology students differed significantly in both attitude and knowledge.

The results of this study suggest that preservice teachers have had the kind of content reading instruction described by various researchers, with little application of the kinds of strategies suggested in content reading methods courses. The results also indicated that these preservice teachers do not know the kind of instruction they have had. In fact, they only begin to understand and consider the kind of instruction they've had when they start to take content reading methods courses. Very possibly, one of the valuable functions performed in content reading methods courses may be to alert students to the kinds of strategies that can be used. If this sensitization can be coupled with the more positive attitudes the content reading students exhibited toward content reading instruction, the net result may be teachers whose teaching reflects their understanding and their students' needs rather than the practices used when they were in secondary schools.

Ultimately, knowledge of prospective content area teachers' experiences with and perceptions of content area instruction can help content reading methods instructors teach more effectively. Rather than assuming little or no background, content reading instructors can expect to encounter well established expectations, expectations that may have to be directly countered. Content reading instruction will be more effective because content reading instructors will have better understanding and ability to use their students' background.

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Part I--High School Teaching Practices

Directions: Please circle the letter (from A through E) that most nearly reflects the degree to which your high school teachers did each of the following. "A" indicates "always;" "E" indicates "never."

Always Never

1. A B C D E My teachers lectured to the entire class.
2. A B C D E My teachers monitored activities while students worked at their seats.
3. A B C D E My teachers worked with small groups.
4. A B C D E My teachers worked individually with students.
5. A B C D E My teachers conducted discussions with the entire class.
6. A B C D E My teachers previewed the concepts to be developed in a lesson.
7. A B C D E My teachers presented a purpose of reading.
8. A B C D E My teachers presented the important concepts within each lesson.
9. A B C D E My teachers spend time clarifying concepts presented within each lesson.
10. A B C D E My teachers evaluated students' understanding of concepts.
11. A B C D E My teachers provided feedback about students' learning of concepts.
12. A B C D E My teachers used one textbook in each class.

13. A B C D E My teachers used printed materials in addition to or in place of the textbook.

14. A B C D E My teachers regularly used more than one textbook in our class.

15. A B C D E My teachers required us to develop concepts through outside of class reading.

16. A B C D E My teachers had us do assigned reading during class time.

17. A B C D E My teachers used study guides to help develop comprehension skills.

18. A B C D E My teachers emphasized developing higher level as well as lower level comprehension skills.

19. A B C D E My teachers used small group and large group activities in the classroom.

20. A B C D E My teachers used reading as a preparation for lectures or films.

21. A B C D E My teachers used adjunct aids such as structured overviews or other graphic organizers.

22. A B C D E My teachers encouraged more capable students to help less capable students.

Part II--Knowledge of Reading

Directions: Read each item carefully and choose the best answer for each item. Circle the letter of the one best answer for each item.

1. When considering the various skills into which reading comprehension can be divided, it is important to remember that
    A. all skills are distinct and necessarily approach separately.
    B. all skills are overlapping and mutually reinforcing.
    C. all skills can be learned incidentally, without formal instruction.
    D. all skills need to be taught directly through structured lessons.

2. When reading is referred to as a "top-down" process, what is meant by "top-down?"
    A. comprehending by relating what is read to a preexisting pattern
    B. examining an idea by identifying, defining, evaluating, and analyzing
    C. processing where the later sentences add detail to a topic
    D. reading the ideas early in the selection and then working toward the later ideas

3. Which of the following is the best example of a semantic factor that could cause reading difficulty?
    A. The reader encounters a phrase that sounds out of place.
    B. The reader encounters a word which is difficult to pronounce.
    C. The reader encounters an unfamiliar sentence order.
    D. The reader encounters an unknown term.

4. What does SQ3R stand for?
    A. scan/question/read/record/recite
    B. skim/question/reading/recall/review
    C. survey/question/react/read/review
    D. survey/question/read/recite/review

5. Which of the following is more clearly associated with reading of paragraphs than with reading longer selections?
    A. finding the topic sentence
    B. following the organizational pattern
    C. identifying the interrelationships of the parts to the whole
    D. summarizing the selection

6. Superior readers differ from other readers in which of the following ways?
    A. Superior readers need more reading instruction than other readers do.
    B. Superior readers need no reading instruction while other readers do.
    C. Superior readers need to participate in reading tasks different from the tasks other readers engage in.
    D. Superior readers usually read narrative material while other readers usually read expository material.

7. Which of the following best describes the relationship between oral language development and reading development?
    A. Oral language development assures the development of functional reading.
    B. Oral language development depends upon the development of functional reading.
    C. Oral language development facilitates the development of functional reading.
    D. Oral language development has no effect on the development of functional reading.

8. Content schemata can be distinguished from general schemata. What are content schemata?
A. readers' knowledge about a subject area read about in school
B. readers' knowledge about varying organization patterns, from narration to exposition
C. readers' knowledge of the history of a subject matter area
D. readers' knowledge of the leading authorities in a subject area

9. Reading skills are often divided into three different thinking levels. These levels are commonly referred to as
A. literal, inferential, applied.
B. memory, translational, evaluation.
C. oral, silent, choral.
D. simple, compound, complex.

10. For which of the following instructional objectives would the use of a cloze passage be most appropriate?
A. to alert students to connotations and denotations in a reading selection
B. to direct students to important facts in a reading selection
C. to focus students' attention on major subdivisions of a reading selection
D. to improve students' ability to use context in a reading selection

11. Which of the following is the most significant benefit that can be gained from the cloze test?
A. The cloze text determines the grade level of the material.
B. The cloze text estimates how well a student will be able to read a given passage.
C. The cloze text measures a student's overall reading ability.
D. The cloze test predicts the particular problems a student will encounter with a passage.

12. Which of the following activities would best test reading for overall paragraph meaning?
A. combining sentences within a paragraph
B. identifying sentences that fit or do not fit in a paragraph
C. isolating sentences that are ambiguous in a paragraph
D. paraphrasing individual sentences within a paragraph

13. Mr. Craig's class has been practicing locating the main ideas in paragraphs that they read. Now he feels a need to focus attention on the details which support those main ideas? Which of the following activities should he use?
A. activities where the students define difficult terms from the paragraphs
B. activities where the students paraphrase difficult parts of the paragraphs
C. activities where the students read the paragraphs aloud
D. activities where the students recall specific facts from the paragraphs

14. After students have read a passage, the teacher discusses the main thought of the selection with them. The teacher then asks "What other sentences make you think that was the main idea?" What skill is this question designed to promote?
A. following the sequence
B. identifying the main idea
C. locating supporting details
D. reading in thought-units

15. Which of the following is a difference between semantic factors and syntactic factors?
A. Semantic factors have to do with meaning; syntactic factors have to do with sentence structure.
B. Semantic factors have to do with style; syntactic factors have to do with grammatical structure.
C. Semantic factors have to do with the process of reading; syntactic factors have to do with the content of what is read.
D. Semantic factors have to do with the ways words are used; syntactic factors have to do with the meanings of the words.

Part III--Content Reading Practices

Directions: Please indicate the extent of your agreement with each of the following statements by circling the appropriate number, from 1 to 7 (1 indicates that you "strongly agree" and 7 indicates that you "strongly disagree").

1.	A content area teacher is obliged to help students improve their reading ability.	1	2	3	4	5	6	7
2.	Technical vocabulary should be introduced to students in content classes before they meet those terms in a reading passage.	1	2	3	4	5	6	7
3.	The primary responsibility of a content teacher is to impart subject matter knowledge.	1	2	3	4	5	6	7
4.	Few students can learn all they need to know about how to read in the first six years of school.	1	2	3	4	5	6	7
5.	The sole responsibility for teaching students how to study should lie with reading teachers.	1	2	3	4	5	6	7
6.	Coursework in how to teach reading in content areas should be required for secondary teaching certification.	1	2	3	4	5	6	7
7.	Only English teachers should be responsible for teaching reading in secondary schools.	1	2	3	4	5	6	7
8.	A teacher who wants to improve students' interest in reading should show them that he is she likes to read.	1	2	3	4	5	6	7
9.	Content area teachers should teach content and leave reading instruction to reading teachers.	1	2	3	4	5	6	7
10.	A content area teacher should be responsible for helping students think on an interpretive level as well as on a literal level when they read.	1	2	3	4	5	6	7
11.	Content area teachers should feel a greater responsibility to the content they teach than to any reading instruction they may be able to provide.	1	2	3	4	5	6	7
12.	Content area teachers should help students learn to set purposes for reading.	1	2	3	4	5	6	7
13.	Every content area teacher should teach students how to read material in that teacher's content specialty.	1	2	3	4	5	6	7
14.	Reading instruction in secondary schools would be unnecessary if elementary schools were successful in their jobs.	1	2	3	4	5	6	7
15.	Content area teachers should be familiar with theoretical concepts of the reading process.	1	2	3	4	5	6	7

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TEACHERS' REACTIONS TO A STATE MANDATED BASIC SKILLS READING TEST

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Although there is supporting evidence that people believe public schools are improving (Gallup & Clark, 1987), there is still a general perception that the schools are not performing at an optimal level. Officials both within and outside of education have searched for solutions to the perceived "malaise." If one is to judge by the present emphasis on teaching and testing by objectives, the solution has been a return to the country's Puritan roots where reading, writing, arithmetic and religion were the curriculum choices and drill the instructional method (Ballantine, 1983; Resnick & Resnick, 1979). The states' mandating minimum competency or basic skills tests is a manifestation of this return to basics movement. Inherent in this mandate is pressure on teachers to produce students who can pass the tests.

For years, standardized tests have been used as indices of student achievement, and teachers have accepted the tests as part of an ongoing process of providing the best instruction possible (Goslin, 1967; Jackson, 1968; Lortie, 1975). However with the relatively recent focus on accountability, teacher competence, and minimum competencies, teachers have found themselves pressured to produce "better students."

Media stories give added pressure through the reporting of the local system's students' performances as compared to other systems in the area, state, or nation. Teachers also know or suspect that their competency as educators will be called into question if an inordinate number of students fail to pass the target objectives. Thus, confronted by a dissatisfied public, teachers may use these tests to produce quantifiable data that can "prove" quality education is being provided in the schools. However, the use of these tests may conflict with the teachers' professional beliefs (King, 1977; King, Thompson, Chi & Lehr, 1984; Shannon, 1986) or with research findings.

Within the last twenty years, teachers' opinions about tests and their uses have been the focus of several studies. The results have been mixed, depending on the nature of the study. For example, in a nationwide study of teachers' opinions of standardized achievement tests, Goslin (1967) found, among other things, that elementary school teachers were the least likely of the teachers surveyed to believe that standardized tests were accurate in measuring students' potential. He also found that teachers in schools with higher percentages of minority students tended to coach their students more than did teachers of mainstream students. Stetz and Beck (1979) found that teachers in private schools were more likely to use the results of standardized tests than teachers in public schools, and the higher the grade taught in school, the less likely the teacher would use the results. Other studies have shown that the number of years of teaching experience can influence how teachers think about and use tests (Yeh, 1978), and that the best uses for test results are identifying curriculum strengths and weaknesses or reporting students' progress but not for assessing teacher accountability (Wood, 1982). Teachers have less faith in the accuracy of minimum competency tests than do their principals (Hess, 1986; Higginbotham, 1985), and teachers believe many of the skills management programs have assessments that take up too much class time (Boyd, Jacobson, McKenna, Stake, & Yasinsky, 1975; Minaya, Helms, Alexander, Ross, & Thompson-Smith, 1985).

The literature regarding educators' attitudes toward both norm-referenced and criterion-referenced testing can be characterized as "idiosyncratic (Gullickson, 1984)." In some cases, those least likely to use the tests, (i.e., administrators) have the most positive opinions about tests.

The major purpose of this paper will be to present the findings of a study on teachers' opinions and feelings toward a state mandated basic skills reading test and how these opinions and feelings influenced techers to use the test's results and objectives in planning and implementing reading instruction.

Method

A purposive sampling of thirty elementary schools in a large southeastern city's metropolitan school district provided a sample of 353, teachers grades K-6. Each teacher was mailed a general questionnaire containing fifteen bipolar semantic differential scales (Oagood, Susi, & Tannebaum, 1967) and a personal profile. The general questionnaire (Appendix A) was an adaptation of a semantic differential scale instrument used in a nation-wide survey of teachers' and students' opinions about standardized testing (Stetz & Beck, 1979). Of the 353 teachers mailed questionnaires and personal profiles, 171 returned materials. Kerlinger (1973) notes that one serious drawback with the use of the mailed questionnaire is the lack of response. However, the author was able to counteract the low response rate by using the master list of the school system's certified personnel and analyzing 35 of the 171 respondents who only sent in partial information (thus rendering their data useless). This action allowed the researcher to account for 90 percent of the 353 teachers originally contacted.

A second method of data collection was the semi-structured face-to-face interview. The interview schedule (Appendix B) contained eighteen questions related to the teaching of reading, using test results, and ordering materials for reading instruction. Fifteen of the 136 respondents who sent in completed questionnaires and personal profiles agreed to be interviewed. With self-selection, there is always the possibility that those who volunteer will not be representative of the larger sample. However, when group means of the sample were compared to the group means of the fifteen interviewees little variation was noted.

The Tennessee Basic Skills First Achievement Test (BSF) was the test used in this study. The Tennessee State Board of Education mandated this test in 1984 for grades three, six, and eight. The test consists of a math and a reading subtest. For the purpose of this study, only the reading subtest was used. The most recent edition (1987) has 10 objectives with four items per objective for the third grade test, and 11 objectives with 4 items per objective on the sixth grade test. Because of strict test security, each test is released only on the days of administration, and then only to those teachers teaching the mandated grades.

Results and Discussion

Analysis of variance (ANOVAs) and t tests were performed on the semantic differential data for four of the five variables of interest (A fifth variable, relating solely to principals, will only be briefly alluded to in this paper). The four variables were years of teaching experience, percentage of minority students enrolled in the school, grade level taught (those who teach the mandated grades vs. those who do not), and position held (teacher or principal).

Table 1 presents the means and standard deviations of the opinions and feelings scores from the semantic differential scales for the variable years of experience.

Table 1

Means and standard deviations for groups by classroom experience

Scale	Group 1		Group 2		Group 3	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Obstructive/Helpful	4.61	1.42	4.35	1.54	4.37	1.34
Fair/Unfair	3.93	1.28	3.38	1.68	3.68	1.51
Influential/ Uninfluential	3.84	1.00	3.80	1.50	3.95	1.33
Good/Bad	3.98	1.44	3.58	1.61	3.69	1.47
Warranted/ Unwarranted	3.72	1.33	3.53	1.71	4.08	1.57
Hard/Easy	3.53	1.28	4.77	1.52	4.37	1.28
Valid/Invalid	4.42	1.20	4.05	1.84	4.28	1.43
Useless/Useful	4.37	1.46	4.31	1.77	4.45	1.55
Important/ Unimportant	3.79	1.60	3.93	1.64	4.16	1.64
Beneficial/Harmful	3.72	1.24	3.75	1.52	3.63	1.38
Calm/Anxious	3.84	1.31	3.44	1.90	3.74	1.77
Comfortable/ Uncomfortable	3.67	1.21	3.33	1.61	3.29	1.66
Interested/ Uninterested	3.44	1.48	3.25	1.66	3.58	1.77
Knowledgeable/ Unknowledgeable	3.65	1.19	3.53	1.34	3.45	1.59
Supportive/ Antagonistic	3.99	1.11	3.69	1.55	4.08	1.55

There were significant effects for years of teaching experience on the bipolar scales **hard/easy**, F (2, 133)= 4.69, p< .01 and **knowledge/unknowledgeabel**, F(2,133)=3.50, p< .03. The respondents fell roughly into three experience groups – 1-10 years (n=43), 11-20 years (n=55), and 21-30 years (n=38). A post hoc analysis of these significant effects using the Scheffe' test revealed that the least experienced teachers thought the test too hard and felt that they were not as knowledgeable about the BSF as the other two groups (p < .05). The differences may be the product of the state's tight security surrounding the test. Seventy-four percent of the least experienced teachers taught the grades not required to take the test. Therefore, they were not familiar with the test.

Significant differences were found between several scale means depending on the percentage of minority students enrolled in schools. Group means and standard deviations are presented in Table 2.

Differences were found on the bipolar scales **fair/unfair**, *t*(132)=2.64, p< .009; on the bipolar scales **hard/easy**, *t*(132)=-2.70, p<.008; and on the bipolar scales **important/ unimportant**, *t*(132) =1.98, p<.05. Teachers who taught in schools with 25% minority enrollment or better thought the test less fair, too hard, and less important than those teachers who taught in schools with less than 25% minority enrollment.

Table 2

Means and standard deviations of teachers by minority enrollment*

Scale		High %	Low %
Obstructive/Helpful	$\bar{X}$	4.32	4.57
	SD	1.46	1.44
Fair/Unfair	$\bar{X}$	3.92	3.23
	SD	1.47	1.54
Influential/Uninfluential	$\bar{X}$	3.95	3.70
	SD	1.30	1.29
Good/Bad	$\bar{X}$	3.96	3.55
	SD	1.57	1.46
Warranted./Unwarranted	$\bar{X}$	3.83	3.61
	SD	1.57	1.47
Hard/Easy	$\bar{X}$	3.79	4.45
	SD	1.40	1.35
Valid/Invalid	$\bar{X}$	4.41	4.04
	SD	1.53	1.54
Useless/Useful	$\bar{X}$	4.15	4.70
	SD	1.60	1.57
Important/Unimportant	$\bar{X}$	4.18	3.63
	SD	1.66	1.51
Beneficial/Harmful	$\bar{X}$	3.90	3.45
	SD	1.39	1.37
Calm/Anxious	$\bar{X}$	3.77	3.52
	SD	1.71	1.67
Comfortable/Uncomfortable	$\bar{X}$	3.56	3.23
	SD	1.65	1.51
Interested/Uninterested	$\bar{X}$	3.60	3.14
	SD	1.66	1.58
Knowledgeable/ Unknowledgeable	$\bar{X}$	2.91	2.86
	SD	1.38	1.45
Supportive/Antagonistic	$\bar{X}$	3.72	3.29
	SD	1.40	1.39

*N = 134 (two scores are missing.)

There were significant effects for the variable grade level taught on the bipolar scale **knowledgeable/ unknowledgeable.** Table 3 presents the group means and standard deviations for this variable.

Teachers who taught the grades not required to take the mandated test felt they were less knowledgeable about the test than teachers who taught grades 3 and 6, t(134)= -2.69, p<.008. Again, the state's security would contribute to these findings.

Additionally, there were significant effects for position held, teacher or principal, on the bipolar scales important/unimportant and calm/anxious. Group means and standard deviation are presented in Table 4.

Teachers thought the test less important than did the principals t(162)= -2.39, p< .02 and they were significantly more anxious about the test than were the principals t(162)= -3.26, p< .001. These results are supported in the literature by similar findings in other studies (Ruddell & Kinzer, 1982; Wood, 1982).

Subsequent interviews were transcribed, reduced and standardized. The standardizing and reducing were adaptations of procedures proffered by Miles and Huberman (1984) in their explication of analyzing cross site data. Peer debriefing (Lincoln & Guba, 1985) was also used in order to establish the credibility of the results of the interview data.

The interview data revealed interesting dichotomies between the teachers, older and

Table 3

Means and standard deviations of teachers: required and non-required*

Scale	Required		Non-required	
	$\bar{X}$	SD	$\bar{X}$	SD
Obstructive/Helpful	4.23	1.55	4.64	1.30
Fair/Unfair	3.52	1.60	3.73	1.45
Influential/Uninfluential	3.77	1.44	3.94	1.15
Good/Bad	3.78	1.56	3.81	1.49
Warranted/Unwarranted	3.58	1.59	3.91	1.54
Hard/Easy	4.29	1.49	3.84	1.32
Valid/Invalid	4.03	1.59	4.43	1.48
Useless./Useful	4.46	1.56	4.27	1.67
Important/Unimportant	3.97	1.58	3.93	1.67
Beneficial/Harmful	3.68	1.42	3.73	1.37
Calm/Anxious	3.52	1.85	3.78	1.52
Comfortable/Uncomfortable	3.33	1.65	3.52	1.54
Interested/Uninterested	3.20	1.72	3.61	1.52
Knowledgeable/Unknowledgeable	2.58	1.30	3.21	1.34
Supportive/Antagonistic	3.41	1.45	3.69	1.38

*Required N = 69; Non-required = 67

Table 4

Means and standard deviations by position held

Scale	Principals*		Teachers**	
	$\bar{X}$	SD	$\bar{X}$	SD
Obstructive/Helpful	4.96	1.23	4.43	1.44
Fair/Unfair	3.64	1.42	3.63	1.53
Influential/Uninfluential	3.43	1.29	3.85	1.30
Good/Bad	3.61	1.47	3.79	1.52
Warranted/Unwarranted	3.14	1.21	3.74	1.56
Hard/Easy	4.07	0.90	4.07	1.42
Valid/Invalid	4.04	1.55	4.23	1.54
Useless/Useful	4.86	1.46	4.37	1.61
Important/Unimportant	3.14	1.65	3.95	1.62
Beneficial/Harmful	3.21	1.50	3.71	1.39
Calm/Anxious	2.54	1.37	3.65	1.69
Comforable/Uncomfortable	3.11	1.85	3.43	1.60
Interested/Uninterested	3.11	2.10	3.40	1.63
Knowledgeable/Unknowledgeable	2.79	1.57	2.89	1.40
Supportive/Agnostic	3.18	1.85	3.54	1.42

* Principals = 28
** Teachers = 136

younger and suburban and urban, and between the teachers and their principals. The older teachers thought the test could serve as a curriculum guide for younger teachers, but the younger teachers found the test stifling and a hindrance to creative teaching. Most of the teachers considered the curriculum that accompanied the tests too time consuming. When asked if they thought their principals used the results of the BSF to assess their competence as teachers, the teachers answered overwhelmingly – YES!. However, only two of the ten principals interviewed for this study said they use the test results as a means to evaluate their teachers. The interviews also revealed that teachers did not think the test that beneficial, whereas principals did.

Most significantly, teachers interviewed for this study reported that they felt they had to teach to the test's objectives because they were under pressure to produce students who could pass it. It was apparent these teachers believed that not only were their students being assessed by the BSF but their own competence as teachers. The sentiment of the entire group of teachers was stated by the very first teacher interviewed, "You know, we need more time to teach writing. There are too many computer sheets. We really only teach to survive. We play the game."

Before each interview the teachers were administered the Theoretical Orientation to Reading Profile (DeFord, 1979), a validated instrument that measures teachers' philosophical orientation toward teaching reading. All fifteen scored in the skills or phonics area. Thus philosophically, a basic skills test should be to their liking. However, the mitigating factors of test politics and test logistics produced a general antipathy toward the BSF. The teachers did appear to sense that the heavy emphasis on skills is doing their students a disservice. They let it be known that neither students nor teachers are robots who can be programmed to learn or teach the same way. The teachers in this study gave a limited endorsement to the BSF. What was most interesting was that the teachers who were interviewed disliked the test for reasons other than instructional ones. Their qualified endorsement seems to suggest that a heavy reliance on testing is not the way to improve education. If test scores are rising, many of the teachers interviewed for this study would say, "Yes, they are, because we have learned to 'play the game.' "

Concern has been voiced about what many educators believe to be the "pernicious effects" of minimum competency/basic skills testing. These "pernicious effects" include a narrowing of the curriculum through teachers' strictly adhering to skills management systems that often leads to a "teaching to the test" (Anderson, Hiebert, Scott, & Wilkinson, 1985; Ebel, 1971; Johnston, 1984; Smith, 1986; Tyler & White, 1979). Most teachers interviewed for this study felt they were teaching more skills so their students would pass the BSF. They stated that they felt pressured by principals, parents, and the general citizenry to produce students who could pass the BSF, thus they felt need to "play the game."

The public schools are being challenged to produce better graduates (Mikulecky, 1987), and it is a challenge the teachers in this study believe will not be met if the reading curriculum is based on fragmented basic skills and their attendant assessments. As one teacher noted, paper and pencil tests can not adequately assess all students. The challenge is there for public schools to produce better students, but "playing the game" of basic skills appears not to be the method to appropriately answer it.

APPENDIX A

Questionnaire

General Opinions about the BSF

Obstructive	1	2	3	4	5	6	7	Helpful
Fair	1	2	3	4	5	6	7	Unfair
Influential	1	2	3	4	5	6	7	Uninfluential
Good	1	2	3	4	5	6	7	Bad
Warranted	1	2	3	4	5	6	7	Unwarranted
Hard	1	2	3	4	5	6	7	Easy
Valid	1	2	3	4	5	6	7	Invalid
Useless	1	2	3	4	5	6	7	Useful
Important	1	2	3	4	5	6	7	Unimportant
Beneficial	1	2	3	4	5	6	7	Harmful

Personal Feelings toward Self

Calm	1	2	3	4	5	6	7	Anxious
Comfortable	1	2	3	4	5	6	7	Uncomfortable
Interested	1	2	3	4	5	6	7	Uninterested
Knowledge	1	2	3	4	5	6	7	Unknowledgeable
Supportive	1	2	3	4	5	6	7	Antagonistic

Do you wish to be interviewed about the BSF? Yes ___
No ___

___

Appendix B

1. Tell me the best method of assessing students' reading ability.
2. This method is best because ________________.
3. Tell me what you think of the Tennessee Basic Skills First reading test as an assessment tool.
4. Do you think that since its implementation it has influenced you to modify your reading/language arts instruction?
5. Tell me how you group for reading/language arts instruction.
6. How do you decide on the groups?
7. Are the groups fluid or fairly stable?
8. Do you feel that your group more or less since the BSF/CCRP implementation?
9. Do you spend more or less instructional time with any certain reading group since BSF/CCRP?
10. Since BSF/CCRP, do you find yourself staying with the text or modifying it?
11. Do you ever read aloud to your students?
12. Did you read aloud to them before the BSF/CCRP?
    (if yes to 8 and 9) How often do you read to your students?
    (if no to 8 and yes to 9) Do you think the BSF/CCRP was the reason for your dropping it?
13. Has the BSF/CCRP caused you to use different materials than you used previous to its implementation?
14. Which of the following materials do you find yourself using more since the BSF/CCRP:
    a) basal readers
    b) supplementary materials that accompany basals
    c) dittos/worksheets
    d) file folders
    e) chalk/chalkboard
    f) workbooks (phonics and/or basal)
    g) computer software or drill practice
    h) children's books
    i) other
15. How are the BSF results used? Do you ever feel that your teaching is evaluating according to how your students perform on the BSF?
16. Tell me what the benefits of having implemented the BSF/CRRP are.
17. Tell me the drawbacks of BSF/CRRP?
18. Tell me what changes, if any, should be made in the BSF (the test.)

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DEVELOPMENTAL READING FOR COLLEGE STUDENTS WHO THINK, SPEAK, AND WRITE BLACK DIALECT

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Although researchers and theorists have done much to explore dialect vs. standard English in relation to reading instruction, many dilemmas still exist with regard to dialect and its place in the teaching/learning process. One such dilemma is the question of how dialect should be treated in developmental/remedial instruction at the college level – particularly where there is emphasis on the reading/writing approach.

There are several related conflicts that the instructor will encounter with black American dialect as a pervasive student variable. This is due to the great influx of minority clientele among the student populations of institutions of higher education. The student's verbal interpretation of material read will include grammatical miscues. The student's oral reading will include grammatical miscues and often be slowed by the need to engage in subliminal translation from standard to dialectical form. Moreover, the student's written responses to comprehension questions will be rife with grammatical miscues and misspellings.

The instructor is faced with the following questions. To what extent can learning be assessed on the basis of the student's oral and written interpretations of reading material? How should the student's written interpretations of reading material be graded? Should the dialectical processing be treated as English or as a second language?

Theoretical Framework

According to Labov (1969) and Goodman (1969), among others, black American dialect has a distinct and complete grammar of its own. According to Goodman's (1976) theory of "miscue analysis," a student's miscue substitutions are often valid replacements which do not detract from intended meaning. As for English as a second language instruction, the most prevalent literature in this area espouses the bilingual approach to developmental programs. Lefevre (1964) has stated that "children should be taught to read and write the same language that they already speak and understand when they enter school." He indicates that dialect as a "variant of the mother tongue can serve as a basis for language growth and development as nothing else can." This perspective has been accepted by other theorists, with some reservations.

Downing and Leong (1982) have also stated that "young school beginners make better progress if their instruction is delivered in their mother tongue." However, they indicate that such a strategy is often infeasible for various reasons. "Even if it is feasible, the cognitive benefits may be negated by negative emotions," as found in the black American dialect experiment conducted by Stewart (1975). Stewart attempted to replicate, with black English dialect users, Osterberg's dialect related experiment.

Osterberg (1961) conducted an experiment to determine the effects of the mismatch between a subcultural dialect (D1) and the standard dialect (D2) of the dominant culture in Sweden. Groups D1 and D2, of equivalent readiness and intelligence, were instructed such that D1 received 10 weeks of reading instruction in their dialect and D2 parallel instruction in standard Swedish; testing; and then 25 weeks more of instruction for both standard dialect with transitional instruction for D1 in the first four weeks. Tenth week and thirty-fifth week tests showed that the D1 group surpassed D2 in oral reading, reading rate, and comprehension. Osterberg's results are said to provide strong evidence that the mismatch between D1 and D2 is an important handicap in learning literacy. In addition, his finding that initial D1 instruction is superior in transfer to D2 reading "firmly fixes the temporal locus of the trouble." According to Osterberg, "mismatch has its ill effects in the first initiation phase of learning literacy" such that students suffer confusion when the form of initial literacy instruction is contrary to the student's natural form of language.

Ironically, Stewart (1975) was unsuccessful in trying to replicate Osterberg's approach with reading materials in black English dialect based on common language patterns of black children in Washington, D.C. According to Stewart, he was "attacked for introducing a bad language that shouldn't appear in The schools." Stewart states that "Black American community leaders despised their own mother tongue and were ready to condemn their children to more generations of school failure because of their resistance to the recognition of black culture in the curriculum." Wolfram and Fasold (1969) have explained this phenomenon as follows:

> Sociolinguistic research has shown that speakers who use socially stigmatized speech forms sometimes have the same low opinion of such forms as do speakers who do not use them. As a result, even though the black English materials might be clearer and more natural to some, they may not be acceptable because of the presence of these stigmatized forms (p. 142).

Bernstein (1971) has formulated the theory of "restricted vs. elaborated codes" in keeping with a "language deficit hypothesis" which indicates that those who speak dialects (restricted codes) suffer a language deficit. In opposition to Bernstein's theory, Labov (1969) has described the "elaborated code" (the standard form) as being "often turgid, redundant, bombastic and empty." In reference to black dialect users he observes that:

> Far from being deficient, black Americans take great pride in their verbal facility and verbal play is a predominant feature of children's behavior in their subculture. They receive much verbal stimulation, hear well-formed sentences and participate fully in a highly verbal subculture. (Downing & Leong, p. 278).

Labov (1973) also indicates that such subcultural groups have language that is different not deficient – the "language difference hypothesis." He regards the concept of "verbal deprivation" of lower class children as an illusion. He concludes that "there is no reason to believe that any nonstandard vernacular is in itself an obstacle to learning."

Goodman (1969) has supported Labov's perspective with the following statement:

> In every respect, the process of language development of the divergent speaker is exactly the same as that of the standard speaker. His language when he enters school is just as systematic, grammatical within the norms of his dialect, just as much a part of him as any other child's is.

Downing and Leong (1982) indicate that the problem, according to the "language difference hypothesis," is that "working class children's norms are different from those of their teachers." They conclude that, "the language difference, when treated as a defect, causes heightened cognitive confusion in the literacy learner."

In spite of the fact that a variety of efforts have sometimes been made to "remediate" the speaking and writing of users of nonstandard English, there are still many students now in developmental reading courses as college freshmen who manifest a dominant use of black dialect in their speaking and writing patterns. Thus, instructional dilemmas are encountered particularly where there is emphasis on the writing approach to reading. This point will be demonstrated through a case study perspective.

A Case in Point

First, let us look at two samples of student work and attempt to determine which category, "standard American English user" or "black American dialect user," should be assigned to each.

> A. The contrast between a Australopithecus and Homo erectus was one step ahead of the Australopithecus during the early ages. The Australopithecus was walking almost fully erect while the Homo erectus had a larger brain than the Australopithecus; the Australopithecus used

simple tools they had make but the Homo erectus had more advanced tools and weaponry.

The Homo erectus had more characteristics of a human being than the Australopithecus had during this time. The Homo erectus were more advanced overall in everything compared to the Australopithecus.

B. This is about comparing the Australopithecue person with that of the Homo erectus. These are really two kind of people because, the Australopithecue men wasn't much of a man. He was the first stage of man existence. He lived anywhere that he layed his head down. He had a very small brain, and he used small tool that he made to go hunt small animal. The Homo erectus was the next stage, so he was more exvanced than the Australopithecue. He looked much like humans look today. He had better tool than the Australopithecue man. They even had bigger brains than them.

It is easy to determine that Sample A is standard American English (SAE) and Sample B is Black American dialect (BAD).

Next, look at performance patterns of several SAEs as compared to the BAD user whose sample appears above, for text chapter and novel comprehension tests across three academic quarters. Compare:

a.) Test scores across academic quarters for each student.

b.) variance of scores in the same test for each student particularly where the lowest score is made by the BAD user

c.) essay scores on each test

Table 1

Developmental reading for college students who think, speak, and write black dialect

Quarter 1

SAE	Total	72	75	51
	Essay	35/50	37/50	---
SAE	Total	63	72	71
	Essay	15/50	31/50	13/50
SAE	Total	83	65	53
	Essay	40/50	24/50	8/20
BAD	Total	65	81	76
	Essay	35/50	31/50	20/20

Quarter 2

SAE	Total	73	---	64	75	44
	Essay	28/40	---	28/40	35/60	12/40
SAE	Total	66	56	72	85	66
	Essay	27/40	6/40	36/40	45/60	26/40
SAE	Total	---	48	78	75	54
	Essay	---	0/40	33/40	35/60	32/40
BAD	Total	60	52	80	95	75
	Essay	21/40	10/40	35/40	55/60	32/40

Quarter 3

SAE	Total	---	---	60	72
	Essay	---	---	4/20	
SAE	Total	---	---	61	---
	Essay	---	---	4/20	---
SAE	Total	77	69	45	60
	Essay	25/40	15/40	0/20	
BAD	Total	90	89	45	76
	Essay	30/40	35/40	0/20	

SAE = Standard American English User
BAD = Black American Dialect User

It should be noted that all of the students are considered to have fairly equivalent intelligence and readiness since they were initially placed in the same reading class in the first academic quarter and were placed in the same class for each of two subsequent quarters.

Test scores across academic quarters for each of three SAE users and one BAD user show that, in a majority of instances, the BAD user performs as well as or better than SAE students on measures of text chapter or novel reading comprehension. A comparison of students' scores on specific tests for the SAE and BAD users shows that where the BAD user did not score higher than all SAE users, the BAD user's score was still within reasonable range (4 to 18 points) from the highest score. In the only two instances where the BAD user scored the lowest on the essay portion of the comprehension tests, his score was within a range of no more than 4 to 7 points below the other students' essay scores.

Finally, consider the BAD user's essay samples showing extreme differences in language patterns from standard American English. (Note the markings.)

> A. Am just going to define these word_ first. Patriarchal family Elder male dominate_ the household the advantage is_ take less pressure off female. 2) and let male have the say so disadvantage is 1) the male may not make enough fund_ 2) the male might be too bossy Matriarchal family is_ older female dominate_ the advantage is that the male have not got two much prussure on him and 2) the female have all the say so she want disadvange is the 1) male make not like a female bossing hime 2) the female might not have enough fund_ for the household.
>
> Egalitarian family is when the male first female share equal responsibility advangage 1) have more funds 2) you can get along better like that disadvange 1) some husband_ don't want *his wife* to work so he *don't* want thing_ equal
> The one that I choose is the best for both (male) and female male is Egalitarian because it take_ the prussure of both of them aby both of them paying the bill_ and doing every thing equarl
>
> B. The stage direction was extremely important in this play becauuse it told us about helen and what kind of movement *she_doing*. The stage direction was real important to the charter am about to talk about, first helen. Shage was important for her because she really couldn't talk, so it showed what she was dryin to say. And when she would get mad, it showed what kind of Action she was doing. At was extremely inportant for Annie to because when helen wound spell something it show_ her felling. When she first got over the keller *she opomisted* (optomistic) about her. At the End of the story hellen started spelling word_, Annie said that Annie was smiling and happy
>
> C. Maya and Bailey had a good quality relationship. They *was* real close than most sister and Brother *at* the beginning to the end of the story. Like when they first started reading together Maya trys to stick up with him. I think he on the one that pushed her to start Reading alot. When Maya got Rape_ she wouldn't tell know who did this to her than Bailey ash her. She didn't *want tell* him at first because she said if tell someone the man said he was going to kill you (bailey) but Bailey stad know he want because he want let him. She believe him and then tolb bailey who had Rape_ her. And when she found out she was prenent she wrote a letle to bailey and he wrote one back telling her not to tell Mother and she didn't until she was 8 month_. And another when people use_ to come in the store and talk bad to maya Bailey use_ to take up for her by *say thing* to them.

Conclusions

The BAD user, indeed, demonstrates an excessive use of language patterns which are different from standard American English. No doubt, they are also an integral part of his thinking and speaking processes (production). However, the student's written responses are given for the purpose of demonstrating comprehension of materials read. It is obvious, once the grammatical and spelling miscues are deciphered, that the BAD user, in most instances (samples), has demonstrated a satisfactory understanding of the content that is tested. The BAD user relates key ideas, draws conclusions, makes analogies, draws inferences and makes valid judgements about the content of the materials read, just as well as several of the SAE users might, for the same materials, although their personal language forms are different.

Thus, the most feasible answers to some of the questions that emerge from the dilemmas encountered in writing-based reading instruction for the dialect user are as follows. Learning can be assessed for the BAD user to the same extent as the SAE user, as long as the BAD user is not discouraged from written expression in his natural language, if this is still his dominant means of processing. Phonetic spelling and non-standard grammar should not be discouraged or penalized.

The student's written interpretations of reading material should be graded strictly for content rather than style, in the reading class, since the goal of reading instruction is primarily the improvement of comprehension skills. Full credit should be given for appropriate ideas although the instructor may indicate miscues with meaningful comments and acceptable substitutions of expression.

Indeed, dialectical processing should be treated as English as a second language (ESL). The ESL student should not discard his native language because it is different – the authors simply tried to present repeated exposures to prototypical examples of the standard language in contexts that are relevant, interesting, and valuable. The language base of a college level dialect user should not be strengthened by presenting dialect material. Since it has been found that dialect users (particularly black dialect users) attach stigmas to their own dialect form, it is unlikely that college age students who are inexperienced readers will be easily diverted from such ingrained cultural values.

Although instructors seek to help the student improve in all phases of learning, including the writing approach to reading, the benefits cannot be gained from penalizing the dialect user's writing structure if these teachers are primarily concerned with the student's reading comprehension. The lessons that the instructors can learn from careful observation of the BAD user's writing sample are far more invaluable than those provided by theory and analytical calculation of language structure. Even if a student's language pattern is saturated with an excess of non-standard forms, this individual is still capable of learning invaluable lessons about life and living. The BAD user samples exhibited above demonstrate an understanding of fundamental concepts related to the origins of man, alternative lifestyles of contemporary man, the importance of literary technique, and the importance of people. If reading teachers are truly concerned about the essential value of literacy then these instructors must continue to find meaning even where non-standard forms of expression exist.

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Problems Court Session:

SHOES THAT FIT DON'T PREVENT BUNIONS

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Did you know that bunions are hereditary? They are, and people who inherit them can do little to prevent them. Even choosing the best fitting, most expensive pair of shoes may not prevent the outbreak of this dreadful affliction. It's endemic, part of the make up of certain individuals which gets passed on from generation to generation. So too is the propensity of reading educators to embrace the ideas of researchers who address their concerns and speak their parlance. It's part of our training, generation after generation, to seek research findings which address practical concerns so that "new" knowledge gets translated into practice. Yet, generation after generation, we have not escaped the afflictions of reifying theory or overgeneralizing the implications of research for practice.

their parlance. It's part of our training, generation after generation, to seek research findings which address pramilated into the folk beliefs and ways of the profession. How come? I think that in looking for shoes that fit, practitioners seek ones that suit their preconceptions and, thereby, maintain or only alter slightly their current practices. The new knowledge gets accommodated to old knowledge and comes out looking pretty much the same. Getting a larger pool of heroes, as Otto suggests, might help. But I think the fit between research and practice should be less comfortable so that we have to change our old shoes and get new ones before we willingly accept the pronouncements of some researchers and summarily dismiss others.

My heroine is Ann Brown and her research is in the area of metacognition, a very fashionable area indeed. Yet, I rarely recognize it when I read about it in articles addressed to practitioners. Somehow this poorly understood construct has gained widespread appeal. Any practice labeled as "metacognitive" is uncritically accepted even though very little empirical research exists (Paris, 1987) to substantiate that there is any such thing as metacognition or that it can be taught directly to students.

The Rhetorical Lives of Scientific Observations

I think Fahnestock (1986) provides a cogent explanation of why this phenomenon occurs and why we should not be too comfortable when we find a fit between research or theory and our existing beliefs and practices. Her approach centers on analyzing how scientific ideas and observations get warped as as they travel from scholarly research reports to accounts aimed at a more general audience. The approach is derived from Aristotle's system for analyzing persuasive discourse and a system derived from classical stasis theory for analyzing how issues develop in a public forum. Fahnestock uses these systems to account for changes in scientific observations when they are accommodated for presentation to a lay audience. She focuses in her research on changes which occur in literature from the physical and biological sciences, but the process she describes is analogous to what may happen in our field.

Fahnestock suggests that scientific ideas have rhetorical lives as they pass from original research publications into ones designed for more general audiences. Genre shifts occur and statement types change as information gets recast to make it appealing to a larger audience. These shifts and changes come from intermediates whose task is to translate the ideas of scientists into practical applications and to bridge the gap between scientific advances and the public's ability to understand them. To do this, intermediates have to accommodate the new information to the old assumptions and values of lay readers. The genre in which the information was originally conveyed shifts from the factual, technical, qualified genre of research to one which is more appealing and interesting to the public. The organization of scientific genre is structured to establish the validity of particular observations. The organization of popular genre is structured to inform readers about the observations, their significance, value and practical applications. Statements about significance, value and practical applications are omitted from scientific accounts because scientists assume that their peers have sufficient knowledge to infer them and because they are careful not to engage in speculation.

The aim of popular accounts, however, is to generate interest in and knowledge about scientific discoveries. The writers of these accounts have to emphasize the significance, value and usefulness of discoveries because they cannot assume that their readers have sufficient knowledge to infer them. This is done using two appeals, the wonder appeal and the application appeal. The wonder appeal is a technique for glamorizing ideas, making them seem "wonderful" by attaching them to something which has recognized value to a general audience. The application appeal stresses the potential benefits of new ideas. According to Fahnestock, if intermediates cannot reconstruct scientific observations in these ways, then they probably will not make their way to audiences outside of the scientific community. With these appeals, however, the intermediates make research claims more certain, exaggerate their significance, omit contradictory evidence and force the observations into practical applications. Under the pressure to be interesting, the original observations can get distorted in critical ways.

Accommodations About Metacognition

One of our major roles as professors of reading is to inform teachers about new theory and research and their implications for practice. In so doing, our task is like that of the intermediates Fahnestock describes: we try to communicate subject-matter written for a research audience so that it is palatable to teachers. We do this by linking new knowledge to teachers' prior knowledge, explaining the significance of new ideas to them and suggesting implications for practice. Also, like Fahnestock's intermediates, our translations influence policy as well as practice. Thus, if her analysis is correct, we are faced with the dilemma of making new ideas appealing to teachers without exaggerating the certainty of researchers' claims, omitting contradictory evidence or overgeneralizing the practical applications. We have not, I think, avoided these distortions in the area of metacognition.

Teachers, or at least those of us who write for them, have enthusiastically latched onto metacognition as a major theory which provides specific and concrete alternatives for improving reading instruction. Most researchers (Brown, 1987; Flavell, 1987; Jacobs & Paris, 1987), however, admit that metacognition is a fuzzy, poorly understood concept which is now problematic because of the variety of forms it has taken in the literature. Nevertheless, we indiscriminately glamorize the notion (make it wonderful) and tell teachers that it is an indisputable ingredient of effective reading instruction. We have leaped from research results to significances and applications which simply go beyond the claims of their originators. Researchers like Ann Brown and Scott Paris, on the other hand, treat metacognition as nothing more than a theoretical promise, an idea whose value and significance has yet to be established. They (Palinscar & Brown, 1984; Paris, 1987; Perkins, 1985) qualify their claims, noting that there is very little empirical evidence to suggest that instruction in metacognitive knowledge and skills quickly or significantly enhances reading performance.

Theoretical articles on metacognition are arguments, whereas articles for teachers are panegyrics. The theoretical literature (Brown, 1987; Chi, 1987; Derry & Murphy, 1987; McKeachie, 1987) is filled with controversy and contradictions concerning whether or not metacognition:

a) can be taught directly
b) is domain specific or a general skill
c) facilitates or interferes with learning
d) should be taught to all students regardless of ability

Such controversy is missing from the writings for teachers. Instead, metacognition is presented with certainty as either a remedy for teaching less-skilled readers or as an instructional panacea from which all students will profit.

We reify the abstract construct of metacognition to make it comprehensible and force research observations into speculative applications which make it appealing. SQ3R, reading strategies (any type), learning strategies (under any conditions), etc., are make analogous to such notions as executive control, reflective access or self-regulation. Almost any reading process is dubbed "metacognitive" and innumerable conventional practices are advanced as ways to teach metacognitive knowledge and skills. To avoid such distortions, it seems to me, we need to make our readers less comfortable so that they have to stretch harder or even change their thinking to see how metacognitive research and theory might take us beyond our current level of practice. As long as metacognition can be anything to anybody, the term, will obscure rather than illuminate efforts to examine how students indeed develop the ability to plan, monitor and control their own learning. If we are not careful in our translations, then we may have teachers following footsteps which will lead them down the proverbial garden path.

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Problems Court Session:

HOW DO WE PICK OUR HEROES: A SECOND LOOK

THE SHOE THAT FITS

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The question that we're addressing here was first raised at the 1986 Forum meeting. We were troubled that reading educators seem inclined to accept the reported results of certain studies as inspired truths and to reject — or worse, to ignore — perfectly reasonable critiques or alternative interpretations of the same, or similar, data. Our case in point was the almost total acceptance of Durkin's (1979) conclusions about comprehension instruction in contrast to the almost total dismissal of Heap's (1982) cogent critique and sensible alternatives. The discussion that followed led us to make two summary statements.

First, there are many other instances where valid results and sensible alternatives are rejected or ignored even as others are embraced and assimilated into the folk beliefs and ways of the profession.

Second, we believe that there must be identifiable reasons why reading educators are willing to accept certain pronouncements without so much as a raised eyebrow and to summarily dismiss other, perfectly sensible suggestions.

Building on last year's base, then, we shall attempt to identify factors that impel us to embrace certain ideas at the expense of others and to examine the effects of such factors in selected instances. My remarks are directed to the identification of factors and my colleagues consider specific instances. Perhaps through discussion of such matters we will move toward more discriminating ways to select our heroes.

In the first place, I think our hero-selecting routines are, at the very least, convoluted by our less than robust conception of reading education as a proper discipline. I've addressed that concern elsewhere:

> I've always been dazzled by the ability of reading educators—be they engaged in research, model building or instruction—to find important implications for the teaching of reading in virtually every field of human endeavor. We extract inferences for the development of reading proficiency and for the remediation of reading problems from such diverse areas as psychology, sociology, social psychology, neuro-psychology, neurophysiology, internal medicine, pharmacy and computer science. I suppose we're inclined to grab whatever we can wherever we can because "reading" itself has neither substance nor product. Anyway, sensible and justified or not, all the seeking and extracting from diverse areas does add spice to the literature of reading education and vigor to the lives of reading educators (Otto, in press).

My cynical side says that we're irresistibly drawn to those we perceive as our betters when we seek our heroes, just as we're irresistably inclined to accept any words that are spoken with a colonial British accent as undeniably scholarly and unquestionably authoritative.

Yet my rational side sees a strong alternative to my observation from the cynical side. When they pick their heroes, I think that reading educators — at least the ones who see themselves more as practitioners than as researchers — are drawn to researchers who address practitioners' concerns and who speak in the parlance of teachers. By and large, researchers tend to be content to pursue issues that best serve their interests, without particular regard for application; and practitioners, by and large, are content to practice what seems sensible — or, at least, expedient — without particular regard for what the research says. Yet, when a researcher addresses their concerns and speaks their language — as Durkin has done in her now classic study of comprehension instruction — reading educators roll out the red carpet.

Greg Myers (1985) speaks to this point in an article titled, *The Social Construction of Two Biologists' Proposals.*

Myers' stated purpose in the article is "to read two scientific texts as products of a community of researchers, to see what they can tell us about composing as a process of social construction;" he chose grant proposals for analysis because proposals are the most obviously rhetorical writing scientists do and the writing that has the most immediate effects on the structure of the discipline. While he does not contest the view that peer review of proposals is like a murder trial with a jury of ax murderers from the same gang, he argues that proposal writing is part of the consensus-building process essential to the development of scientific knowledge. The proposal-writing process, Myers says, shapes both the writers and, to a lesser degree, the discipline.

While Myers' analysis is worth pursuing for its own sake, one can find two particular inferences that help to explain reading educators' apparent preference for Durkin over Heap. First, in spite of the *Journal of Reading Behavior* article that he prepared specifically for reading educators, Heap still stands outside the community of reading educators. That is, he has not convinced reading educators that his work gives sufficient attention to their words, ways, beliefs, and aspirations to be taken seriously. Second, to find credence in a given community, writers must make their texts fit in two ways — with their citations and with their terminology. That is, to gain wider acceptance by reading educators, Heap would need to make more use of their parlance and their literature in stating his case.

So how do we pick our heroes? Fats Grobnik summed up for me, like this: You'd like to be able to walk in the footsteps of your heroes . . . so you look for shoes that fit.

Now, I'm not sure that finding a comfortable fit is a proper basis for choosing our heroes; but I do think, at least for now, that it's an important consideration. It would be nice, then, if we had a bigger pool of heroes to choose from.

One possible approach to increasing the size of the pool is described by Jeanne Fahnestock (1986). Her analysis of what happens as scientific observations pass from research reports intended for peers into popular accounts for a general audience is the basis for suggestions that could help researchers and practitioners to accommodate new knowledge to existing beliefs and practices in ways that would be acceptable to both the researchers and the practitioners . . . and assure a more comfortable fit.

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Problems Court Session:

SELECTING AN APPROACH TO ENHANCING LITERACY: WOULD ROY ROGERS BE A HERO WITHOUT THE HORSE HE RODE IN ON?

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I have recently been thinking about three works that address the general topic of literacy levels. Each of these present different views on how best to approach literacy and the contributing factors that surround it. These works are "An Attainable Version of high Literacy: Approaches to Teaching Higher-order Skills in Reading and Writing," by Carl Bereiter and Marlene Scardamalia; one by Shirley Brice Heath "What No Bedtime Story Means: Narrative Skills at Home and School;" and another by E.D. Hirsch, Jr. "Cultural Literacy: What Every American Needs to Know." nother by E.D. Hirsch Scardamalia article they are concerned with what would be needed in order to make high literacy of some sort attainable by the majority of students. They contend that this would require constructing new models of curriculum and instruction that can bring the benefits of high literacy to students who do not already enjoy highly literate backgrounds. In a very convincing discussion of factors that need to be addressed by schools, they describe the type of model teacher and instruction necessary to bring about levels of high literacy. They suggest that what is needed is a school environment that functions like a learned profession, to which teachers and students alike belong. This environment would need to support a continual growth in literacy— in other words, growth beyond wherever one happens to be. They suggest that teachers:

> would need to function as learners of reading and as strivers after higher levels of literacy than they currently possess (there being, of course, no ceiling in these things.) We would also, however, need teachers teaching, and in particular teaching the higher-order cognitive skills that will enable children to adapt to a school culture in which intentional learning is the norm. And finally, we would need teachers able to enlist children in mutual support of one another's learning efforts— in other words, to foster a kind of professionalism among students.

Who can argue such thoughts? Heroes indeed!

Heath, on the other hand, suggests that the culture children learn as they grow up is in fact, "ways of taking" meaning from the environment around them. She contends that children have to learn to select, hold, and retrieve content from books and other written or printed texts in accordance with their community's rules or "ways of taking," and the children's learning follows community paths of language socialization. She goes on to state that teachers and researchers have failed to acknowledge that "ways of taking" from books are as much a part of learned behavior as are ways of eating, sitting, and playing games.

She makes the point that a range of alternatives to ways of learning and displaying knowledge characterizes all highly school-successful adults in the advance stages of their career. Knowing more about how these alternatives are learned at early ages in different sociocultural conditions can help the school to provide opportunity for all students to avail themselves of these alternatives early in school careers.

Heath states that to understand the place of literacy in human societies and ways children acquire the literacy orientation of their community, a great deal of ethnography is needed to provide descriptions of the ways different social groups "take" knowledge from the environment. She concludes that only on the basis of such thorough going ethnography that further progress is possible toward understanding cross-cultural patterns of literacy development.

Finally, Hirsch argues that literacy is dependent upon more than mere skills in reading and writing. He emphasizes that a common background of information and knowledge is the key to effective educational opportunity for all students. He suggests that this common background of information and knowledge should be identified and make public. Based on this common core of information, he suggests that an "extensive" curriculum, if not, "national" examination could be developed to test this "extensive" curriculum. He maintains that such a test would have the effect of providing a "driving" force for the "extensive" curriculum in schools and encouraging publishers to include it in their textbooks.

Hirsch concludes that such educational reform is essential if we are going to, among other things, "break the cycle of illiteracy for deprived children."

Well now, how would one likely choose from this trio of Hero candidates and approach to enhancing literacy? I agree that the factors Otto has suggested might play a role in choosing from the above positions on enhancing literacy in schools. However, I am "awed" by the comfort level that I experience with all three of these suggestions. So for me, at least with the above positions, fit and comfort is not a factor. As I think about selecting a Hero from this group, I think more about the horses they rode in on than the Heroes themselves. I see three trusty steeds (Trigger, Champion, and Silver) tied up out front ready to be saddled up by anyone and ridden off into the sunset in pursuit of literacy. I ask myself who might select which steed and where could it be expected to take them.

It appears to me that the steed that Bereiter and Scardamalia rode in on would appeal to, among others, researchers, teacher educators and practitioners interested in effective teaching. This steed also seems appealing because it appears to require less of a trip from where we are to where we want to be regarding literacy development.

Those who select Heath's steed would seem to be in for a much longer journey toward enhancing literacy, however, this position would seem to appeal to those who might be looking for the "richness" that a particular research approach offers in understanding the complex nature of literacy development. It would also seem to appeal to those whose interests are in the naturalness or wholeness of language and reading and writing and their relationship to literacy development in schools.

Most individuals will find no difficulty in relating to the ideas of Hirsch, that common background knowledge and information is essential to understanding. However, one has to question what direction this steed may take. I have concern that this steed will be viewed as very desirable by legislators, state boards of educations, and Blue Ribbon Panels off on a misguided "trivial pursuit" of literacy.

In closing, it appears to me that one way we select our Heroes is to identify those individuals that articulate solutions to certain causes that we believe in or have vested interest in. In relating this to the Heap/Durkin situation which we discussed in a problems court during the 1986 Forum, it appears to me that Durkin might have gained wider acceptance because she articulated in a specific way a general concern many practitioners and researchers have about basal reading instruction. Heap, on the other hand, while providing a very convincing view of how learning takes place in these reading groups, appears to accept this instructional situation that many feel has inherent weaknesses.

I welcome your views on actors that may relate to how a Hero of literacy development might be selected.

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Problems Court Session:

OF HEROES, SHOES, AND HATS

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At first I thought the whole question was wrong, that these two Problems Court sessions had nothing to do with heroes but were simply asking the question, "Which research reports do we choose to believe and which do we choose to reject?" However, due consideration leads me to believe that we do not separate the research report from the research reporter.

Otto says that he thinks that part of the problem is that we have a "...less than robust conception of reading education as a proper discipline," and he indicates that, as a result, we tend to look for our heroes in the disciplines that we draw from—psychology, sociology, social psychology, neuropsychology, internal medicine, pharmacy, and computer science. I submit that it is less a problem of not having a conception of a discipline and more that we do not have a proper name for ourselves. A person in the field of psychology calls her or himself a psychologist; a person in internal medicine calls her or himself a physician; a person in computer science calls her or himself a computer scientist, but we have no such name. We obviously cannot call ourselves readers, although we do read. We sometimes avoid calling ourselves teachers because that would not distinguish us from those great numbers who do not have a greater allegiance to our field than to the several other things they may teach such as arithmetic or spelling. We do not even call ourselves reading teachers because some of us are administrators, researchers, and teacher educators. Have you noticed that whether we be the curriculum director with a degree in reading, the classroom teacher who sees reading as her or his primary focus, a reading researcher, or a professor of reading methods that we call ourselves " a reading person?"

I submit that the sociologist would seldom refer to herself or himself as a sociology person; the neurophysiologist would seldom refer to her or himself as a neurophysiology person, and the pharmacist is never a pharmacy person. then why are we reading people? I think we have a substantial discipline; we just do not have a proper name for ourselves.

For an answer to the hero question itself, Dr. Otto repairs to the wisdom of Fats Grobnik who tells us that because we want to walk in the footsteps of our heroes, we look for shoes that fit. In responding to Otto, I go to the wit and wisdom of my Aunt Ludie who said more than once, "They ain't no brave man that can whup a tight shoe." I think she was right. I think we often try to accept research findings when we learn of them, but we cannot accommodate a research finding when it does not fit our philosophy of reading education or when it does not square with our experience in the field. Thus, we tend to dismiss it. Further, we have the means of doing so. We can look for alternative explanations or research or we can dismiss as unworthy the research reporter. Thus once again we do not separate the research from the researcher.

Otto raises a good question: why do we reading people reject some very valid research results and sensible alternatives and accept, with little question, others? Otto then answers his question quite accurately saying that when researchers pursue their own research interests without regard for application they may expect to be ignored, but when researchers are able to find some real answers to practical problems and can communicate their findings to practitioners they become heroes. I agree.

I think it should be noted also that, for good or ill, in reading or in any arena of life, some things are accepted simply because they are fashionable. Aunt Ludie understood that, too. "I remember back in the 1940's when steel traps came in style, I was the first woman in the neighborhood to wear 'em."

Aunt Ludie, like Fats, was a philosopher, not a researcher. Aunt Ludie never heard of a correlation and would not have purchased one had they been available. However, I believe she had an undeveloped talent for research. She had noted that the majority of people stopped telling the truth about the same time the majority stopped wearing hats. She speculated about whether there might be a connection.

Problems Court Session:

RIDING TRIGGER IN BOOTS THAT DON'T FIT

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The unifying theme of the papers presented in this Problems Court Session is an exploration of how reading educators choose their heroes. How do they determine whom they will listen to? Who achieves status as an authority and influences what reading practitioners do in fact practice?

Otto (1987b) reminds us these questions had been raised at the 1986 Forum meeting with the case of Durkin's (1979) vs. Heap's (1982) view of what happens during the typical basal reading lesson. Reading practitioners widely accept the findings of Durkin on comprehension instruction and largely ignore those of Heap. Durkin's message, simply stated, is that teachers of reading merely "assess" comprehension and don't "teach" it by their questioning strategies. Heap, on the other hand, says if we look at the reading lesson from an ethnomethodological perspective instead of an Interaction Analysis methodology we would evaluate questioning routines differently. According to Heap the teacher guides students to produce correct responses, and validates these answers leading the students to make sense out of text. Durkin places blame on teachers while Heap justifies what they practice. Yet, the reading practitioners exalt Durkin to be the heroine and decline Heap's views.

Otto (1987b), on his rational side, declares we're drawn to Durkin because she addresses our concerns and speaks in the terminology we're accustomed to in reading journals. She talks in the language of teachers and they listen. Hayes (1987) reiterates the concern issue. He says Durkin triggers our loyalty because she deals with a matter that already worries us. (So we give her the best steed?) I agree she gets our attention because we are concerned about problems in comprehension instruction, particularly as it relates to the basal reader. I don't think she actually offers the solution, as Hayes infers she does, because we've chosen her for the heroine.

At the same time, Hayes says we have neglected Heap as a spokesman because he "appears to accept this instructional situation that many feel has inherent weaknesses." As a social anthropologist, Heap's perspective is undoubtedly to describe not evaluate. His methodology, in my opinion, may provide more of a solution than Durkin's criticism of what teachers do. Heap's suggested alternative is to have reading lessons audio or video taped and to examine transcripts of these closely. This sort of observation allows the examination of the connectedness of question-answer sequences and extensions. It makes possible the recognition of what purpose a teacher has when posing questions to a student or a group of students. It is possible to see in this sort of examination the interrelatedness of events or sequences of question/response/validation activities (Heap, 1982). To me this seems a more sensible recognition of what goes on in classrooms than the more limited picture Durkin portrays. Heap's method is of course very time consuming, but I feel the richer portrait it allows could be more instrumental in effecting change than pointing out what teachers are doing wrong. This description is similar to what Hayes feels comfortable with in the work of Shirley Brice Heath. This careful examination could provide teachers the opportunity to see for themselves what is happening when they're teaching and determine what they would like to do differently.

There's a familiarity element here we shouldn't overlook. As practitioners we are familiar already with the work of Durkin. Her shoes are old comfortable ones for us to wear. We are reluctant, as Camperell (1987) points out, to get on the new shoes. She urges that as writers for practitioners we need to urge them to "stretch harder" and push beyond their current thinking. Teachers can read Heap even though his parlance is that of a social anthropologist. If we can convince practitioners to wear uncomfortable shoes they may indeed increase their pool of heroes, as Otto (1987b) suggests.

Otto and Hayes do take seriously Camperell's charge that as professors of reading they need "to inform teachers about new theory and research and their implications for practice." By joining her in addressing the Durkin vs. Heap view of comprehension and other instances of acceptance/denial, they have raised valid questions for the American Reading Forum audience. In graduate reading classes, on their respective campuses they present and examine new issues and relay recent information to students. Otto's (1987a) audience of practitioners is ever increasing through the Research column for the *Journal of Reading* . The pool of heroes and heroines may also be expanding.

Otto, Hayes, and Camperell have heeded the admonitions of Fahnestock by being cautious in their roles as intermediates in translating research for practitioners. Otto (1987b) recognizes that practitioners do what is sensible. Hayes (1987) identifies causes reading educators rise to. Camperell (1987) cautions us about distortions in research translation with the graphic example of metacognition. Each of these aspects influences our selections of heroes and heroines.

The Durkin example highlights the importance of parlance and familiarity for the intended audience. Looking at her three major comprehension studies. (Durkin; 1979, 1981, 1984) there's a definite shift in the audience. The 1979 and 1981 studies were published in *Reading Research Quarterly* and her third study in 1984 was published in *The Reading Teacher*. The shoes are getting quite worn. Maybe we do not choose our heroes; they may be choosing us.

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Problems Court Session:

WHO CONTROLS READING IMPROVEMENT? THE DILEMMA OF THE POWER-EXPERTISE GAP

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One way to understand why reading improvement programs succeed and fail is to consider how school leaders deal with the dilemma called the power-expertise gap. The gap refers to the dilemma where those who have the power to influence changes in reading programs may not have expertise in reading; while those with reading expertise may not have the power or control to put this expertise to good use. for example, Shannon (1986) reported how a standardized teaching—merit pay approach to improving reading achievement was mandated by the administration, and quickly implemented by teachers and principals. However, while test scores and public confidence appeared to improve, teachers adopted a test-score view of reading and complained that teaching reading was less fulfilling. Teachers said principals applied intolerable pressure, and other teachers were too competitive (some cheated on the test scores to obtain merit). While this example shows how those in power can quickly implement changes, it also shows the lack of reading expertise when the human relations consequences are revealed.

If those in power create problems by mandating change would it be better if teachers controlled reading improvement? Many teachers are determined to set their own goals, decide when and how and with whom they'll work toward those goals (Sharma, 1982). In short, as adults, teachers are demanding control over their own learning. The point is well taken—teachers have been mere pawns for too long. But giving teachers full control, while well intended, is a misconception. Teachers have left reading improvement programs with a false notion about their power to change instruction. Teachers have returned to their classrooms motivated and armed with excellent new ideas only to find there is no support system (time, money, incentives, recognition, etc.) to sustain their efforts to change the status quo. Enthusiasm has changed to impotence when they encountered resistance from parents, other teachers, and administrators (Erickson, 1981).

Typically, the dilemma of who controls reading improvement is approached in one of two ways: in some instances those in power are provided training in reading, such as reading inservice training for principals. In other situations those with expertise are trained to be more powerful, such as leadership training inservice for reading specialists. While these approaches to the power-expertise gap have, in some instances, narrowed the gap, a third alternative exists. Instead of trying to transport either power or expertise across the gap an increasing number of school districts have created new structures that bring the powerful together with the experts on a continuing basis to negotiate improvement initiatives on a continuing basis.

For example, in district 21 in Wheeling, Illinois (1987) a school improvement team of teachers, administrators, and supervisors developed a district-wide, three year, long-range plan that features:

1.) a comprehensive, personal needs assessment based upon team interviews that focused on both professional and personal issues;

2.) personal and professional improvement topics, as well as delivery structures and learning formats;

3.) long range programs that integrated district-wide issues with staff needs and goals;

4.) community and school board dissemination and communication policies;

5.) evaluation and program revision activities.

It is significant to note that reading improvement goals and activities were a substantial, but single, piece of a larger pie that included improvement initiatives in other curricular areas.

Professional literature suggests that innovation in a school does not result from a single force. Instead, diverse committees of teachers, such as specialists, administrators, and parents should be joined together to set goals, monitor activities, fight for clarity when issues became distorted, and protect and guide improvement activities until new practices are integrated into everyday classroom practice. In Palos Hills, Illinois Barnes and Murphy (1987) described the manner in which a committee was formed. It consisted of the teacher of the year from each of the three high schools, the teacher union president, the union negotiator, the superintendent and assistant superintendent, and three high school principals. They negotiated a five year school improvement plan that featured paid summer training sessions for staff and peer coaching arrangements in each high school department. Other committees similar to the Illinois example, are the Helping Teaching Cadre in Lincoln, Nebraska and the Staff Development Academy in Jefferson, Colorado (Howey and Vaughn, 1983). As relatively new organizational structures, these committees increase the problem solving capabilities of the schools and enable schools to cope with changes in roles, duties, interpersonal relations, and to build solutions to problems with the people who will implement them. When committees negotiated, steps were taken to:

1.) Include a variety of members who hold diverse viewpoints and come from both within and out of the school system.

2.) Give members released time and/or financial compensation to participate.

3.) Train committee members in group processes and adult learning and change.

4.) Appoint a coordinator of the committee who can work up to half time on the committee's behalf.

5.) Let the committee determine its own agenda rather than imposing an agenda upon the members.

6.) Allow the committee to have at least 10 members and give them a budget.

7.) Provide time for the committee to self-renew, recruit new members, acquire new skills, and plan for the future. (Lambour, Rostetter, Sapir, Ashaki, 1980).

How does negotiating work?

School leaders with successful committees report that because the members represented such a variety of diverse viewpoints, negotiating required special group process skills. And because educators were often trained as teachers of children, they had to learn how to negotiate and compromise with other adults in order to agree on school improvement goals and activities. Here are some adult learning activities used early in the life of school improvement committees which enabled members to work together toward common goals.

1.) At early meetings of the committee the members discussed their ideas and attitudes on school improvement. Giving adults a chance to share their values, opinions, past experiences, and concerns early in the life of the committee helps build trust and "unfreeze" communication. An example of a good activity is to have members write answers to the following question— What individual and institutional factors inhibit change in schools? After writing alone, small groups share responses, and one member reports group responses to the entire committee. Often this "list" of ideas is used to begin the planning process.

2.) The committee studied and discussed materials on adult learning and change, and a consultant who is an "expert" in school improvement helped the group plan out steps for long range change. This training was often carried out by a local educator although a carefully selected "outsider" can be effective.

3.) The group leadership was often assumed by someone other than a high status school official. An articulate teacher, department head, or a curriculum staff specialist can lead sessions. Skill in group processes and consensus decision making is more important than high status due to expertise or position.

4.) Effective committees followed carefully planned agendas. Open discussion "free for alls" were controlled by time limitations and some consultants and administrators report that an agenda that features some writing in each phase has helped committee members communicate as they negotiate.

When writing was successfully used three things happened: First, each person perceived that everyone else had considered their thoughts because they were recorded for everyone to read; second, each person read (and therefore considered) everyone else's recorded ideas; and third, as the group generated lists, members could see some evidence that they were making progress toward a goal. School leaders report that the following agenda is useful for committee decision making (Erickson, 1983; See Second Opinions, *Executive Educator*, 1984, p. 2). It should be noted that although the following ideas focus on a process that applies to general school improvement initiative, reading improvement is specified to fit the audience for this article.

Step One: Define Roles

In order for members to act collectively they agreed on common issues and defined goals. They did this by collecting written responses to questions such as: What reading improvement issues will this group deal with? What product will we produce? Are we expected to develop policy, carry out policy? Who does this committee report to? Responses to such questions were recorded and discussed at initial meetings and the group recorded their final statements for everyone to use in future work.

Step Two: Define Authority

This is related to step one, but after the group began work, it was necessary to clarify the power and influence role of the group. Confusion about this caused some members to believe that the group only recommended initiatives, while others were prepared to lead an implementation activity. Also, when alternate actions were proposed it was necessary to check on legal and contractual restrictions concerning staff time and money. Obtaining written answers to these questions also helped: Where does this group fit into the formal structure of the school district? What are the time, money, and staff policy limitations to consider?

Step Three: Get Facts

Reading improvement planning requires the use of both fact and opinion. Separating the two was not easy, but one way that seemed to work was to collect written information based upon the following questions: What current policies or data are relevant to reading improvement? Is this information valid and confirmable? Does this information alter the committee's original goals? Sources of data included interviews with administrators, teachers, experts, or reports of test data, or reports of questionnaire data from students and/or the community. Charts, reports, and diagrams were useful to report data to a committee.

Step Four: Develop Policies

In order to expedite decision-making and reach agreement on negotiated issues it was necessary to test reading improvement policies and future activities against written standards. For example, consider how decision-making became clearer and more direct when members shaped their deliberations around the following agreed-upon guidelines:

1.) the program must help teachers meet the range of reading needs found among their students;

2.) the program must provide practical classroom techniques;

3.) teachers must have time and support while they try out the ideas and discuss successes and concerns;

4.) teachers must have financial and social incentives to implement the new techniques;

5.) the program must use the resources of staff members who are already working in the system;

6.) only outside consultants who have a proven success record will be used.

Statements like this helped the groups reach consensus and have a way to evaluate the effectiveness of the reading improvement initiatives that were finally agreed upon.

School leaders who have used this agenda report that the process helped the adults to collaborate and not be dominated by authority figures or vocal members. Negotiating was easier when plenty of writing materials such as flip charts, markers, paper, ballots, allowed people to read each other's ideas. Reading each other's written responses, as opposed to open discussion, was a way of preserving each adult's perceptions about solutions to reading improvement issues, while at the same time linking thought processes so that the committee could close the gap between the power and expertise that often plagues reading improvement initiatives.

An examination of the Wheeling, Illinois committee's agendas, documents, and reports supports the notion that putting a group in control makes sense because serious school business is rarely intrusted to any one individual or segment of the school community anyway. The formal establishment of a committee, whose members collectively have the power and expertise to both control and support change through adult learning has been the first step in nearly all of the highly successful school improvement programs in California (Odden and Anderson, 1986).

The impetus to engage in school improvement in general and reading improvement in particular has resulted in mandates and money. Some districts choose a power model and mandate changes from the top while others try an expertise model such as hiring consultants to train teachers and principals. Both of these approaches sometimes reflect the common, but naive, belief that school improvement is an "extra" after school affair that is peripheral to the main business of school (Griffin, 1983). The formal establishment of a school improvement committee that successfully negotiates reading initiatives is evidence that reading improvement is not a simple after-school affair. Negotiating reading initiatives may be the only way to deal with all of the factors that comprise the power-expertise gap. And finally, negotiation works because school leaders recognize that changing schools is an ongoing developmental process that requires as much , if not more, work than running the schools. Given the obvious need for school improvement, negotiation is proof that rather than just being organized to run, schools are becoming better organized to change.

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